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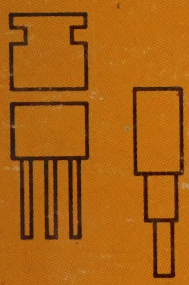

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hp

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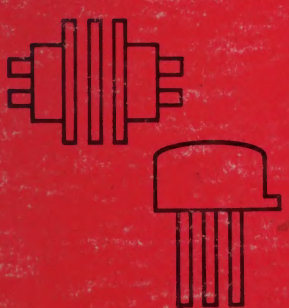

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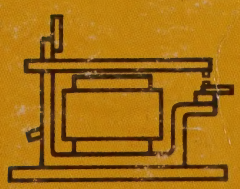


catalog 52

A major breakthrough in op amps...

MOS/FET, Bipolar and CMOS on the same chip.

It's the low-cost CA3130 from RCA. An accurate, easy-to-work-with op amp from the people who first combined PMOS and bipolar technologies in the CA3100T.

Even with three technologies on a single chip, the new CA3130 is simplicity itself. Which is why it costs only $0.75 at 1K (premium versions are also available). Among its principal features (values shown are typical):

General Purpose
High open loop voltage gain: 110 dB
Low input offset voltage: 8mV
Low input current: 5pA
Input offset current: 0.5pA

FET input
Very high input impedance: 1500 MΩ

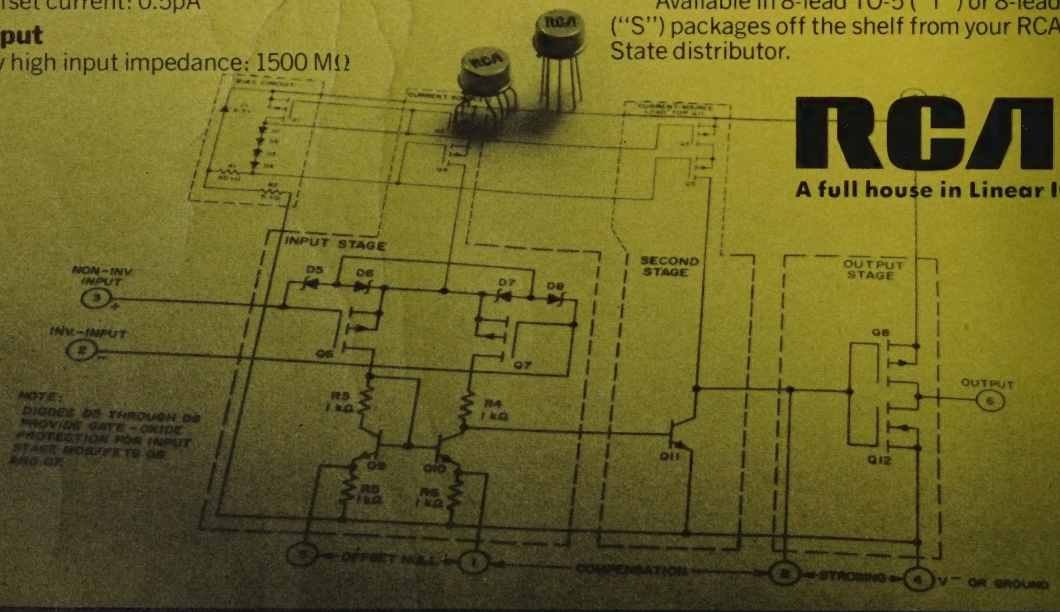
Wideband
Unity gain crossover frequency: 15 MHz
High slew rate: 10 V/μs
Fast settling time: 1.2μs

Micropower
2.5 mW at 5V supply voltage

High current
22 mA output

A voltage swing to within 10 millivolts of either rail on a single power supply is now possible for the first time because of the CMOS output stage.

Available in 8-lead TO-5 ("T") or 8-lead dual in-line ("S") packages off the shelf from your RCA Solid State distributor.



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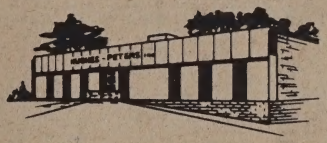

SPECIALIZED SERVICE TO:

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We have planned this catalog with you in mind and hope that you will use it as a handy reference book and buying guide. Our organization is made up of especially well trained people, whose desire is to give you all the assistance and service they are capable of.

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QUICK FIND THUMB TABS

Semiconductors
Tubes
Resistors
Capacitors
Transformers
Relays
Switches
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Batteries, Holders
Hardware
Connectors
Wire & Cable
Racks & Cabinets
Chemicals & Tools
Test Instruments
PA & Sound
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Military Standards—MIL Specs Guide

DESCRIPTION	MS NUMBER	MIL SPECIFICATION
Ammeters, AC, DC and RF, round, flush mtg.	MS35075 thru 079	MIL-A-6/2,/4, /5,/9, and/11
Ammeters, voltmeters and loadmeters, #ASG#	.....	MIL-A-6752A #3
Attenuator, fixed, coax line	MS90704 and 705	MIL-A-3933 #2
Attenuator, fixed	MS16071B thru 094B	MIL-A-3933 #2
Batteries, dry	.....	MIL-B-18C #1
Batteries, storage, lead-acid	MS15367A	MIL-B-11188B #03
Batteries, storage, portable	MS90109B thru 122; MS90114A MS90901 thru 907B; MS91310 thru 1332	MIL-B-15072A#4, Supp 1B
Cable and cord, assemblies, electrical, comm.	MS75027	MIL-C-3885A #1
Power, 3-wire		MIL-C-15987D #1
RF, coax and twin		MIL-C-17C #2, Supp 1F
Special miniature		MIL-C-10392B #1
Multipair, audio		MIL-C-10065A
Capacitors		
Bypass RF filter	.....	MIL-C-12889A #2
Fixed ceramic, temp. compensating	MS35014B, 35348, and 35349	MIL-C-20C, Supp 1
Fixed ceramic, gen. purpose	MS90125A thru 131B; MS91216 and 217A	MIL-C-11015B #1
Fixed AC, dry, electrolytic, non-pol.	.....	MIL-C-3871 #3
Fixed electrolytic tantalum	.....	MIL-C-3965D #1 MIL-C-39003/1A
Fixed, mica, button	MS91102 thru 106	MIL-C-10950B #1
Fixed, mica	MS35007B thru 012B	MIL-C-5B #4
Fixed, paper or mylar, metallized, sealed	MS35021A thru 023A; MS35037 and 038	MIL-C-18312B
Fixed, paper, sealed metal case	MS35027A	MIL-C-25D/3
Fixed, paper	MS35019B and 020B	MIL-C-91A #3, Supp 1A
Feed-thru, RF filter	MS91173A thru 175	MIL-C-11693B #2
Variable, air, trimmer	MS35028, 39, 40A	MIL-C-92A
Variable, ceramic	MS35024C and 025C	MIL-C-81A
Chokes, RF molded	MS91189	MIL-C-15305B
Circuit breakers, manual	MS25003C thru 006C; MS25017D	NONE
Coils, RF transformers	.....	MIL-C-15305B
Coils, RF choke, molded	MS75008	NONE
Connectors		
Electrical	MS3100B thru 3137; MS27001 thru 016	MIL-C-5015D; 3767A #1; 26482 Change 3; and 8384B
Series BNC	MS35168E thru 187B; MS35367B and 368B; MS91184 and 185	MIL-C-3688A #1
Series C and RF	MS35279C thru 288B; MS35315C thru 330C; MS90214B thru 277C; MS91117 thru 124	MIL-C-3607A, Supp 1
Series HN	MS90258 thru 263	MIL-C-3643A, Supp 1A
Series LC	MS91596B thru 620B	MIL-C-3650A, Supp 1A
Series N	MS90292A thru 293B MS91231B thru 239C	MIL-C-71A, Supp 1D
Cord, Electric	MS75027	
Audio frequency		MIL-C-3883 #2
Short lay		MIL-C-3884 #2
Retractile multi-cond.		MIL-C-13273 #3
Tinsel		MIL-C-3849 #2
Headset and mike		MIL-C-6166C
Couplers, coax and waveguide	MS91718 and 719	MIL-C-15730J #4
Crystal units, quartz	MS91375A thru 401A	MIL-C-3098C, Supp 1B
Electron tubes and crystal rectifiers	MS90039 and 40	MIL-E-1D #5, Supp. 1B
Filters, high pass, low pass, bandpass, supp.	.....	MIL-F-18327A
Filters, RF	.....	MIL-F-15733D #1
Flanges, waveguide	MS90044C thru 063A	MIL-F-3922A #1
Fuses, instrument and power	MS15249A thru 258A; MS90013; MS90077A thru 104A	MIL-F-15160D #2, Supp 1A
Fuseholder, block & plug	.....	MIL-F-21346 #1
Jacks, telephone	MS35064A thru 074A	MIL-J-641 #1

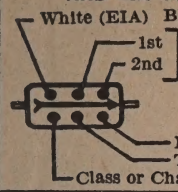
DESCRIPTION	MS NUMBER	MIL SPECIFICATION
Knobs, control	MS25164D thru 170D; MS35064A thru 074A; MS90120A; MS91522 thru 525; MS91528B and 531B	MIL-K-3926 Supp 1B
Lampholders, miniature	MS35413 thru 415; MS90282A and 283A; MS90290 and 291	MIL-L-3661A
Lamps, miniature	MS15530A thru 600B; MS15602B and 603A; MS15605C thru 618C; MS90287A and 288A; MS35478A thru 481	W-L-111C #2
Light, panel, plastic plate	MS25010C	MIL-C-7806A
Meters		
Panel, DC	MS90212	MIL-M-17275A #1
Panel, ruggedized	.....	MIL-M-10304B #1
Panel, sealed	.....	MIL-M-3823 #1
Mounts, vibration	MS91526A, 27B, and MS91406B	MIL-C-172C, Supp 1D
Plugs, telephone	MS35374 thru 78	MIL-P-13715
Relays, electrical, electronic and communication	MS24139 thru 199A; MS25267 thru 273; MS25917B thru 919A	MIL-R-5757D #1
Resistors		
Fixed, composition	MS90194	MIL-R-11C, Supp 1
Fixed film, hi-stab.	MS90169A thru 174A	MIL-R-10509D, Supp 1
Fixed film, power	MS91829	MIL-R-11804D #1
Fixed, wire-wound, accurate	MS-91408, -91412 thru 414	MIL-R-83C #2
Fixed, w-w, power	MS90178B	MIL-R-26C #3
Variable, composition	MS35352, MS35055C	MIL-R-94B #2
Variable, wire-wound, low temperature	MS35046B and 047B	MIL-R-19A #2
Variable, wire-wound, power	MS35048B thru 053B; MS91427 thru 438B	MIL-R-22B, Supp 1
Semiconductor devices	.....	MIL-S-19500C, Supp 1
Shunts, instrument, ext.	MS91586A thru 588B	MIL-S-61B
Sockets, electron tube	MS35085 thru 090; MS91512A thru 515	MIL-S-12883A #1 & JAN-S-28A #3
Sockets, relay, electrical	MS25321A thru 330A; MS25456 thru 464	MIL-S-12883A #1
Solder, lead, tin, tin-lead alloy, flux cored ribbon, wire and solid	.....	QQ-S-571C #2
Switches		
Coaxial, RF	MS90140A thru 142A	MIL-S-3928A #1
Pushbutton & limit	MS25008A and 011C; MS25026B and 085B	MIL-S-6743
Rotary, selector	MS39060	MIL-S-3896A #1
Toggle	MS24523B thru 525B; MS25028F and 029F; MS25068C, 72C & 98A; MS25100A thru 106A; MS25125A thru 128C; MS35058C and 059C	MIL-S-3950, Supp 1
Switch assembly, push-button and limit	MS16106B; MS24331D; MS24420B	MIL-S-6744
Switch assembly, toggle	MS25016C	NONE
Tape, sound recording, magnetic oxide coated; and reels.	.....	W-T-0061B #1
Terminal Boards	MS25044; MS25074C thru 079D; MS25129A thru 132B	MIL-T-16784B
Terminal lug, battery	MS75004	MIL-T-55059
Terminals, lug and splice	MS35430B thru 499B	MIL-T-7928E #1, Supp 1
Transformers and inductors	MS75001A thru 003A; MS90000A thru 32D; MS90036D and 037	MIL-T-27A, Supp F
Vibrators, interrupter, self-rectifying	.....	MIL-V-95A #1,
Waveguide assemblies	MS35156B thru 167B	MIL-W-287B #2
Waveguides, rigid, rect.	MS90035D	MIL-W-85C #4
Wire,electrical, insulated, high temperature	.....	MIL-W-16878D, Supp 1A
Wire, electrical, polytetrafluoroethylene insulated copper, 600 v.	MS-24284A	MIL-W-7139B
Wire, electrical, 600 v., copper, aircraft	MS-25190A	MIL-W-5086A #1

CONSULT US FOR ADDITIONAL INFORMATION

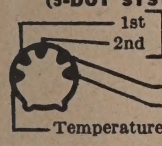
QUICK REFERENCE DATA

HANDY REFERENCE TO CAPACITOR AND RESISTOR CODES

CURRENT STANDARD JAN AND EIA CODE



DISC CERAMICS (5-DOT SYSTEM)

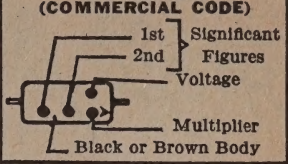


CERAMIC CAPACITOR CODES (CAPACITY GIVEN IN MMF)

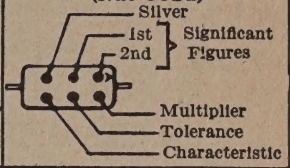
Color	Digit	Multiplier	Tolerance 10 MMF or Less	Tolerance Over 10 MMF	Temp. Coeff. PPM/°C	Extended Range Temp. Coeff. Significant Figure	Extended Range Temp. Coeff. Multiplier
Black	0	1	2.0 MMF	20%	0(NPO)	0.0	1
Brown	1	10	0.1 MMF	1%	33(N033)		10
Red	2	100		2%	75(N075)	1.0	100
Orange	3	1000		2.5%	150(N150)	1.5	1000
Yellow	4	10000			220(N220)	2.2	10000
Green	5		0.5 MMF	5%	330(N330)	3.3	1
Blue	6				470(N470)	4.7	10
Violet	7				750(N750)	7.5	100
Gray	8	.01	0.25MMF		30(P030)		1000
White	9	.1	1.0 MMF	10%	General Purpose		10000
Silver					Bypass & Coupling		
Gold					100(P100) (JAN)		

Ceramic capacitor voltage ratings are standard 500 volts for some manufacturers, 1000 volts for other manufacturers unless otherwise specified.

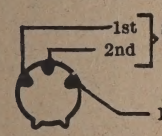
MOLDED FLAT PAPER CAPACITORS (COMMERCIAL CODE)



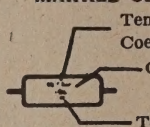
MOLDED FLAT PAPER CAPACITORS (JAN CODE)



DISC CERAMICS

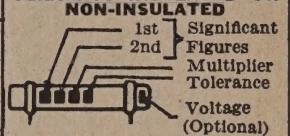


TYPOGRAPHICALLY MARKED CERAMICS

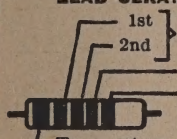


JAN Letter	Tolerance 10 MMF or less	Tolerance Over 10 MMF
C	0.25 MMF	
D	0.5 MMF	
F	1.0 MMF	1%
G	2.0 MMF	2%
J		5%
K		10%
M		20%

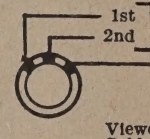
HIGH CAPACITY TUBULAR CERAMICS INSULATED OR NON-INSULATED



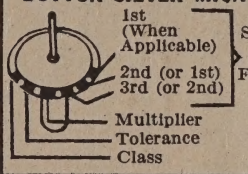
MOLDED INSULATED AXIAL LEAD CERAMICS



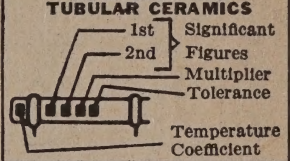
BUTTON CERAMICS



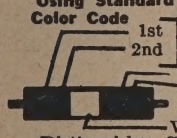
BUTTON SILVER MICA



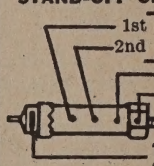
TEMPERATURE COMPENSATING TUBULAR CERAMICS



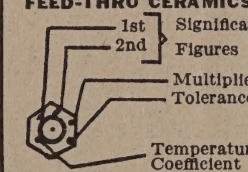
MOLDED CERAMICS Using Standard Resistor Color Code



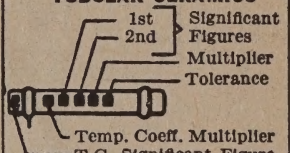
STAND-OFF CERAMICS



FEED-THRU CERAMICS



EXTENDED RANGE T.C. TUBULAR CERAMICS



MOLDED MICA CAPACITOR CODES (Capacity given in MMF)

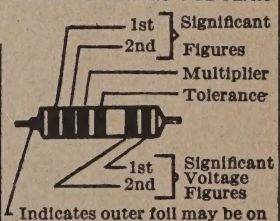
Color	Digit	Multiplier	Tolerance*	Class or Characteristics
Black	0	1	20%	A
Brown	1	10	1%	B
Red	2	100	2%	C
Orange	3	1000	3%	D
Yellow	4	10000		E
Green	5		5% (EIA)	F (JAN)
Blue	6			G (JAN)
Violet	7			
Gray	8			I (EIA)
White	9			J (EIA)
Gold		.1	5% (JAN)	
Silver		.01	10%	

Class or characteristic denotes specifications of design involving Q factors, temperature coefficients and production test requirements.
All axial lead mica capacitors have a voltage rating of 300, 500 or 1000 volts. *or 1.0 MMF whichever is greater.

MOLDED PAPER CAPACITOR CODES (Capacity given in MMF)

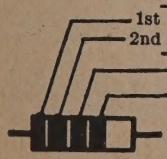
Color	Digit	Multiplier	Tolerance
Black	0	1	20%
Brown	1	10	
Red	2	100	
Orange	3	1000	
Yellow	4	10000	
Green	5	100000	5%
Blue	6	1000000	
Violet	7		
Gray	8		
White	9		10%
Gold			5%
Silver			10%
No color			20%

MOLDED PAPER TUBULAR



Indicates outer foil may be on either end. May also be indicated by typographical markings or black stripe. Add two zeros to significant voltage figures. One band indicates voltage rating under 1000 v.

COLOR BAND SYSTEM



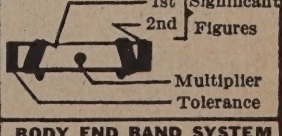
Resistors with black body color are composition, non-insulated. Resistors with colored bodies are composition, insulated. Wire-wound resistors have the 1st digit color band double width.

RESISTOR CODES (RESISTANCE GIVEN IN OHMS)

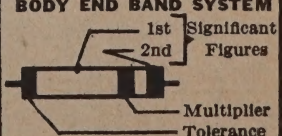
Color	Digit	Multiplier	Tolerance
Black	0	1	20%
Brown	1	10	1%
Red	2	100	2%
Orange	3	1000	3%†
Yellow	4	10000	GMV*
Green	5	100000	5% (EIA Alternate)
Blue	6	1000000	6%†
Violet	7	10000000	12½%†
Gray	8	.01 (EIA Alternate)	30%†
White	9	.1 (EIA Alternate)	10% (EIA Alternate)
Gold		.1 (JAN and EIA Preferred)	5% (JAN and EIA Preferred)
Silver		.01 (JAN and EIA Preferred)	10% (JAN and EIA Preferred)
No Color			20%

*GMV—guaranteed minimum value, or −0+100% tolerance
†ASA 40, 20, 10 and 5 step tolerances

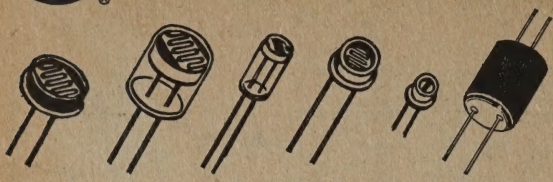
BODY END DOT SYSTEM



BODY END BAND SYSTEM



CLAIREX® Photoconductor Cells



CL5M CL500 CL600 CL700 CL900 CLM8000

Variable resistors controlled by light for automation and control applications. Five series in both metal and glass packages meet most design requirements. Available in low resistance "L" types for transistor and other low voltage uses. Feature stable and closely controlled parameters. High ratio of light-to-dark current at low light levels. High sensitivity and fast response of cadmium selenide. **Operating Temperature:** −50° C to +75° C. **Size:** CL5M series, .490″ dia. x .183″ h.; CL500 series, .500″ dia. x ½″ lg.; CL600 series, .250″ dia. x ½″ lg.; CL700 series, TO-5 case .360″ dia. x .180″ h.; CL900 series, TO-18 case .210″ dia. x .150″ h.

SINGLE ELEMENT CELLS

Clairex No.*	Sensitive Material	Pk. Spectral Response, A	Light Resistance*	Max. Voltage Rating, V	Power† mW
CL5M2	CdS	5150	55K	250	2000–500‡
CL5M2L	CdS	5150	9K	170	2000–500‡
CL5M3	CdSe	7350	7.2K	250	2000–500‡
CL5M4	CdSe	6900	1.5K	250	2000–500‡
CL5M4L	CdSe	6900	0.25K	170	2000–500‡
CL5M5	CdS	5500	9K	250	2000–500‡
CL5M5L	CdS	5500	1.5K	170	2000–500‡
CL5M7	CdS	6150	7.2K	250	2000–500‡
CL5M9M	CdS	5500	11K	110	2000–500‡
CL502	CdS	5150	55K	250	500–250
CL502L	CdS	5150	9K	170	500–250
CL503	CdSe	7350	7.2K	250	500–250‡
CL504	CdSe	6900	1.5K	250	500–250‡
CL504L	CdSe	6900	0.25K	170	500–250‡
CL505	CdS	5500	9K	250	500–250‡
CL505L	CdS	5500	1.5K	170	500–250‡
CL507	CdS	6150	7.2K	250	500–250‡
CL602	CdS	5150	1 meg	300	75
CL603	CdSe	7350	133K	300	75
CL603A	CdSe	7350	75K	300	75
CL603AL	CdSe	7350	3.5K	170	75
CL604	CdSe	6900	30K	300	75
CL604M	CdSe	6900	7.5K	250	75
CL604L	CdSe	6900	1.5K	170	75
CL605	CdS	5500	166K	300	75
CL605L	CdS	5500	7.5K	170	75
CL607	CdS	6150	133K	300	75
CL607L	CdS	6150	3.5K	170	75
CL702	CdS	5150	1 meg	300	125
CL702L	CdS	5150	20K	100	125
CL703	CdSe	7350	133K	300	125
CL703A	CdSe	7350	67K	300	125
CL703M	CdSe	7350	30K	250	125
CL703L	CdSe	7350	2.7K	170	125
CL704	CdSe	6900	30K	300	125
CL704L	CdSe	6900	.6K	170	125
CL705	CdS	5500	166K	300	125
CL705L	CdS	5500	3.3K	170	125
CL705HL	CdS	5500	28K	170	125
CL707	CdS	6150	133K	300	125
CL707L	CdS	6150	2.7K	170	125
CL707H	CdS	6200	600K	300	125
CL707HM	CdS	6200	100K	250	125
CL707HL	CdS	6200	10K	170	125
CL709L	CdS	5500	28K	100	125
CL902	CdS	5150	1 meg	250	50
CL902L	CdS	5150	67K	100	50
CL903	CdSe	7350	133K	250	50
CL903A	CdSe	7350	67K	250	50
CL903N	CdSe	7350	66K	100	50
CL903L	CdSe	7350	6K	100	50
CL904	CdSe	6900	30K	250	50
CL904N	CdSe	6900	15K	100	50
CL904L	CdSe	6900	2K	100	50
CL905	CdS	5500	166K	250	50
CL905N	CdS	5500	83K	100	50
CL905L	CdS	5500	10K	100	50
CL905HN	CdS	5500	700K	100	50
CL905HL	CdS	5500	100K	100	50
CL907	CdS	6150	133K	250	50
CL907N	CdS	6150	66K	100	50
CL907L	CdS	6150	6K	100	50
CL907HN	CdS	6200	300K	100	50
CL907HL	CdS	6200	24K	100	50
CL909L	CdS	5500	100K	100	50

*Average DC resistance (±33⅓%) measured at 2 foot-candles, 2854° K and 25° C ambient, from room light history. †With and without heat sink.

DUAL ELEMENT CELLS

Clairex No.*	Sensitive Material	Pk. Spectral Response, A	Light Resistance*	Max. Voltage Rating, V	Power† mW
CL702L/2	CdS	5150	46K	100	75–125§
CL703/2	CdSe	7350	50K‡	300	75–125§
CL703L/2	CdSe	7350	6.5K‡	170	75–125§
CL704L/2	CdSe	6900	1.5K‡	170	75–125§
CL705/2	CdS	5500	166K‡	300	75–125§
CL705L/2	CdS	5500	7.5K‡	170	75–125§

*Average DC resistance (±33⅓%) measured at 2 foot-candles, 2854° K and 25° C ambient, from room light history. †At 25° C ambient; derated linearly to 0 at 75° C. ‡Each element. §Total power dissipation 125 mW; max. power across one-half, 75 mW.

★QUANTITY PRICES

Clairex No.	Net Each, Lots of 1-99	Net Each, Lots of 100-499	Clairex No.	Net Each, Lots of 1-99	Net Each, Lots of 100-499
CL5M2	$2.21	$1.68	CL703/2	$2.30	$1.95
CL5M2L	2.21	1.68	CL703L/2	2.30	1.95
CL5M3	1.68	1.36	CL704	1.68	1.37
CL5M4	1.68	1.36	CL704L	1.68	1.37
CL5M4L	1.68	1.36	CL704L/2	2.10	1.68
CL5M5	1.68	1.26	CL705	2.15	1.68
CL5M5L	1.68	1.26	CL705L	1.68	1.26
CL5M7	1.68	1.26	CL705/2	2.47	2.10
CL5M9M	3.00	2.00	CL705L/2	2.41	2.05
CL502	2.80	2.14	CL705HL	1.68	1.47
CL502L	2.80	2.14	CL707	1.68	1.26
CL503	2.08	1.73	CL707L	1.68	1.26
CL504	2.08	1.73	CL707H	1.68	1.47
CL504L	2.08	1.73	CL707HM	1.68	1.47
CL505	2.08	1.60	CL707HL	1.68	1.47
CL505L	2.08	1.60	CL709L	3.00	2.30
CL507	2.08	1.60	CL902	2.21	1.68
CL602	1.90	1.46	CL902L	2.21	1.68
CL603	2.22	1.91	CL903	1.63	1.37
CL603A	2.22	1.91	CL903A	1.63	1.37
CL603AL	2.22	1.91	CL903N	1.63	1.37
CL604	2.22	1.91	CL903L	1.63	1.37
CL604M	2.22	1.91	CL904	1.63	1.37
CL604L	2.22	1.91	CL904N	1.63	1.37
CL605	1.90	1.47	CL904L	1.63	1.37
CL605L	1.90	1.47	CL905	1.63	1.26
CL607	1.90	1.47	CL905N	2.21	1.68
CL607L	1.90	1.47	CL905L	1.63	1.26
CL702	2.20	1.70	CL905HN	1.63	1.47
CL702L	1.68	1.26	CL905HL	1.63	1.47
CL702L/2	2.42	2.05	CL907	1.63	1.26
CL703	1.68	1.37	CL907L	1.63	1.26
CL703A	1.68	1.37	CL907N	1.63	1.26
CL703M	1.68	1.37	CL907HN	1.63	1.47
CL703L	1.68	1.37	CL907HL	1.63	1.47
			CL909L	3.00	2.30

DESIGNERS' KIT

Recommended for all prototype design applications. Contains five different photoconductive cells: CL505, CL603A, CL704L, CL707 and CL902; plus designers data sheet and listing of all standard Clairex types.

Clairex Designers' Kit—Net Each.....**$10.00**

HIGH SPEED "CHOPPER" CELLS

Clairex No.	Net Each, Lots of 1-99	Net Each, Lots of 100-499	Clairex No.	Net Each, Lots of 1-99	Net Each, Lots of 100-499
CL903C	$3.20	$2.50	CL903CLS*	$3.30	$2.65
CL903CL	3.20	2.50	CL906CS*	3.20	2.50
CL903CS*	3.30	2.65	CL906CLS*	3.20	2.50

*Photocells with **S** have conductive glass windows and a third lead grounded to the case for complete shielding.

PHOTOMOD® PHOTOCELL-LAMP MODULES

Power Dissipation: Up to 100 mW. **Cell Voltage:** 120 V max. with lamp off. **Module Temperature:** −25° C to 75° C max. operating as measured on the photocell.

Any Model—Net Each, Lots of 1–99.....**$2.70**
Net Each, Lots of 100–299.....**$1.93**; 300–999.....**1.62**

Clairex No.*	Resistance Max. "On" Ohms	Resistance Min. "5-sec. Off" Megs	Max. Time Rise* Sec.	Max. Time Decay† Sec.	Max. Lamp Volts‡	Lamp Cur., mA
CLM3006A	160	100	.060	.17	6	40
CLM4006A	55	1	.080	.17	6	40
CLM3012A	160	100	.080	.21	12	40
CLM4012A	30	1	.080	.18	12	40
CLM3120A	1150	100	.005	.18	120	2.5§
CLM4120A	160	1	.005	.55	120	2.5§
CLM5H10A	3000	10	.120	.070	10	17
CLM7H16A	550	10	.090	.100	16	17

*Time to reach 110% of on resistance. †Time to reach 100K after lamp circuit is broken. ‡For 5,000 hour life. §Neon lamp.

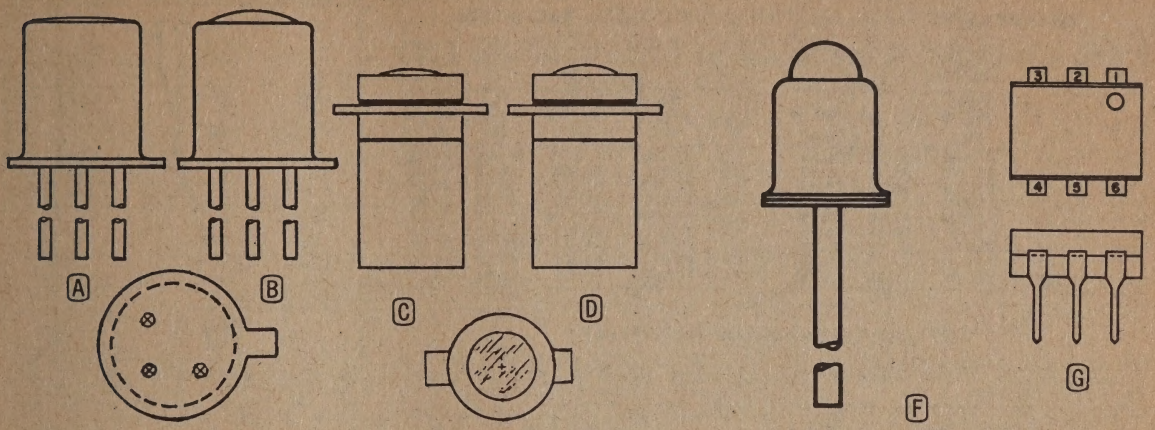
LED-PHOTOCONDUCTOR ISOLATORS

Size: CLM6000, .250″ dia. x .230″ h. with .220″ min. LED leads; CLM8000, .415″ dia. x .320″ h. with ½″ min. LED leads.

Clairex Type	Max. R_{ON} Ohms*	Min. R_{OFF} Ohms	Max. Cell Voltage VDC	Typ. t_R msec	Max. t_D msec	Min. V_{BD} Volts	Max. P at 25° C mW	Max. V_F† Volts	Max. I_F mA	Max. I_R‡ µA	Net Each, Lots of 1-99	Net Each, Lots of 100-999	Net Each, Lots of 1000-4999
CLM6000	250	500K	60	3.5	500	1500	50	2.0	40	100	$2.90	$1.95	$1.40
CLM8000	400	500K	220	3.5	500	1500	125	3.2	50	30	3.75	2.50	1.90

*At 40 mA forward current. †At 20 mA forward current. ‡At 3 volts reverse voltage.

CLAIREX® Silicon Phototransistors



Silicon planar phototransistors in hermetic packages. Light Current (I_L): Light source is a frosted tungsten incandescent lamp at 2854° K t_r and t_f light source is a gallium arsenide LED (light emitting diode) pulsed with a rise and fall time of <0.3 μsec. I_C = 200 mA max. Pulsed conditions, 300 μsec, 2% duty cycle (CLT2010–CLT2160 not pulsed). Size: Fig. A, 0.183″ (±.007″) dia. x 0.200″ (±.010″) h.; 0.500″ min. leads. Window 0.155″ (±.005″) dia. x 0.010″ h. max. Physical dimensions in accordance with JEDEC TO-18 outline except for window on top of can. Collector electrically connected to case. Leads gold plated Kovar. Fig. B, same as Fig. A except lens 0.147″ (±.011″) dia. x 0.040″ (±.010″) h. max. Fig. C, 0.060″ (±.003″) dia. x 0.110″ (±0.010″) h. Window 0.040″ (±.005″) dia. x 0.005″ h. max. Case gold plated Kovar. Fig. D, same as Fig. C except lens 0.040″ (±.005″) dia. x 0.025″ (±.004″). h. Fig. E, 0.060″ (±.003″) dia. x 0.588″ (±.015″) lg. Window 0.040″ (±.005″) dia. x 0.005″ h. max. Lead gold plated Kovar. Fig. F, same as Fig. E except lens 0.040″ (±.005″) dia. x 0.025″ (±.004″) h.

NPN SILICON PLANAR EPITAXIAL PHOTOTRANSISTORS

Three terminal phototransistors in a hermetically sealed TO-18 case. Base lead is provided to enable more flexible circuit design. Offer a full range of high current sensitivity for low illumination levels. Applications include beam breakers, signal recognition, photo switching, counters, sorters, processing and control.

Clairex Type	Fig.	Window or Lens	I_L at V_{CE} = 5 V H = 5 mW/cm² Min. mA	I_L at V_{CE} = 5 V H = 5 mW/cm² Max. mA	Minimum BV_{CEO} V	Minimum BV_{CBO} V	Minimum BV_{ECO} V	I_D at 10 V nA	P_D at 25° C_A mW	Typical t_r μsec	Typical t_f μsec	Net Each, Lots of 1-99	Net Each, Lots of 100-499
CLT2010	A	W	0.2	0.6	50	80	5	25	250	3	3	$1.89	$1.22
CLT2020	A	W	0.4	1.2	30	60	5	25	250	3	3	2.02	1.31
CLT2030	A	W	1.0	3.0	30	60	5	25	250	3	3	2.28	1.47
CLT2130	B	L	0.6	1.8	50	80	5	25	250	3	3	2.14	1.38
CLT2140	B	L	1.2	3.6	40	80	5	25	250	3	3	2.28	1.47
CLT2150	B	L	2.4	7.2	40	80	5	25	250	3	3	2.42	1.56
CLT2160	B	L	4.0	12.0	30	60	5	25	250	3	3	2.56	1.65

NPN SILICON PLANAR EPITAXIAL DARLINGTON PHOTOTRANSISTORS

Same as above except this series is characterized for controlled, high sensitivity at very low irradiance levels. The flat window eliminates the need for critical sensor positioning in applications with low irradiance; lensed window reduces optical cross-talk from stray light.

Clairex Type	Fig.	Window or Lens	I_L at V_{CE} = 5 V H = .02 mW/cm² Min. mA	I_L at V_{CE} = 5 V H = .02 mW/cm² Max. mA	I_L at V_{CE} = 5 V H = .2 mW/cm² Min. mA	I_L at V_{CE} = 5 V H = .2 mW/cm² Max. mA	Minimum BV_{CEO} V	Minimum BV_{EBO} V	I_D at 10 V nA	P_D at 25° C_A mW	Net Each, Lots of 1-99	Net Each, Lots of 100-499
CLR2049	A	W	2*	.....	0.2	.....	50	10	100	250	$2.19	$1.72
CLR2050	A	W	6*	.....	0.6	1.8	40	10	100	250	2.49	1.92
CLR2060	A	W	14*	.....	1.4	4.0	40	10	100	250	2.74	2.11
CLR2170	B	L	0.2	0.8	2.0	.....	40	10	100	250	2.64	2.03
CLR2180	B	L	0.6	.....	4.0	.....	40	10	100	250	2.91	2.25

*H = 2.0 mW/cm².

SILICON PLANAR EPITAXIAL PHOTOTRANSISTORS

Silicon phototransistors in miniature hermetic package designed for high-density mounting applications in card and tape readers, pattern and character recognition equipment, encoders and associated designs requiring stable characteristics. CLT3020, CLT3030, CLT4020 and CLT4030 types are characterized by a wide acceptance angle, fast switching and narrow tolerance ranges of sensitivity. Flat window minimizes the need for critical sensor positioning in many applications. CLT3160, CLT3170, CLT4160 and CLT4170 types are characterized by a narrow acceptance angle, fast switching and narrow tolerance ranges of sensitivity. Lensed window reduces optical cross-talk from stray light present in many applications.

Clairex Type	Fig.	Window or Lens	I_L at V_{CE} = 5 V H = 5 mW/cm² Min. mA	I_L at V_{CE} = 5 V H = 20 mW/cm² Min. mA	I_L at V_{CE} = 5 V H = 20 mW/cm² Max. mA	Minimum BV_{CEO} V	Minimum BV_{ECO} V	I_D at 10 V nA	P_D at 25° C_A mW	Typical t_r μsec	Typical t_f μsec	Net Each, Lots of 1-99	Net Each, Lots of 100-499
CLT3020	C	W	.10	0.40	1.2	50	5.0	10	50	1.5	1.5	$3.60	$2.43
CLT3030	C	W	.25	1.0	3.0	40	5.0	10	50	1.5	1.5	3.87	2.61
CLT3160	D	L	.50	2.0	7.0	50	5.0	10	50	1.5	1.5	3.60	2.43
CLT3170	D	L	2.0	7.0	.....	40	5.0	10	50	1.5	1.5	3.70	2.55
CLT5160	F	L	.50	2.0	7.0	50	5.0	25	50	1.5	1.5	2.82	2.17
CLT5170	F	L	1.4	6.0	.....	40	5.0	25	50	1.5	1.5	3.23	2.49

OPTO-ISOLATOR (FIG. G)

The Clairex series of opto-isolator features a range of transfer ratios and speeds that are unique in the industry. Emitter is a gallium arsenide diode and detector is an NPN silicon planar phototransistor. Size: .350″ w. x .260″ d. x .130″ h. without leads. Leads: .164″ x .016″ (with .100″ ±.010″ space between leads).

Clairex Type	Min. DC Transfer Ratio*	Min. BV_{CEO}† V	Min. Isolation Voltage Volts	Max. Rise or Fall Time‡ μsec	Max. I_{CEO}# nA	Max. V_F§ Volts	Net Each, Lots of 1-99	Net Each, Lots of 100-999
CLI-2	30%	50	1500	5	25	1.5	$2.70	$1.80
CLI-3	100%•	50	1500	5	25	1.5	4.90	4.00
CLI-5	20%	50	1500	2.5▲	25	1.5	3.60	3.00
CLI-10	600%	50	1500	50	100	1.5	3.20	2.20
CLI-20	20%	30	1500	3	50	1.5	2.25	1.50

*At I_F = 10 mA; V_{CE} = 10 V. †At I_C = 0.1 mA; I_F = 0. ‡At R_L = 100 ohms; I_{CE} = 2 mA; V_{CC} = 10 V. #At I_F = 0; V_{CE} = 10 V. §I_F = 16 mA. •30% at I_F = 1.0 mA. ▲3 μsec at R_L = 1000 ohms.

NATIONAL® SILICON CONTROLLED RECTIFIERS

REGENERATIVE GATE SILICON CONTROLLED RECTIFIERS

NL-F152 and NL-F150 Series rated 110 amps; $I^2t = 10{,}700$ A^2sec; $di/dt = 600$ A/μsec.
NL-F159 and NL-F158 Series rated 110 amps; $I^2t = 8{,}200$ A^2sec; $di/dt = 600$ A/μsec.
Both series are all-diffused.

V_{DRM} V	National Type Fig. A NL-	National Type Fig. B NL-	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
200	F152B	F150B	$27.50	$16.50
300	F152C	F150C	30.50	18.25
400	F152D	F150D	36.75	22.00
500	F152E	F150E	43.25	26.00
600	F152M	F150M	48.00	28.75
700	F152S	F150S	55.25	33.25
800	F152N	F150N	60.00	36.00
900	F152T	F150T	66.00	39.50
1000	F152P	F150P	72.00	43.25

V_{DRM} V	National Type Fig. A NL-	National Type Fig. B NL-	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
200	F159B	F158B	$41.00	$24.75
300	F159C	F158C	46.50	28.00
400	F159D	F158D	49.00	29.50
500	F159E	F158E	51.50	30.90
600	F159M	F158M	58.00	34.75
700	F159S	F158S	64.00	38.50
800	F159N	F158N	71.50	43.00
900	F159T	F158T	81.00	48.75
1000	F159P	F158P	92.00	55.25

SILICON CONTROLLED RECTIFIERS

Fig. C—Rated 16 amps rms; $dv/dt = 50$ V/μsec thru 500 V; 10 V/μsec above 500 V; $I^2t = 125$ A^2sec.

V_{DRM} V	National Type	Net 1-99*
100	NL-C36A/2N1844	$ 3.07
150	NL-C36G/2N1845	3.75
200	NL-C36B/2N1846	4.35
250	NL-C36H/2N1847	4.95
300	NL-C36C/2N1848	5.40
400	NL-C36D/2N1849	6.22
500	NL-C36E/2N1850	7.35
600	NL-C36M/516M	8.80
700	NL-C36S/516S	14.50
800	NL-C36N/516N	19.65
800	NL-511-3*	19.25
1000	NL-511-4*	24.00
1200	NL-511-6*	28.75

*$dv/dt = 200$ V/μsec; $I^2t = 160$ A^2sec.

Fig. C—Rated 25 A rms. $I^2t = 125$ A^2sec.

V_{DRM} V	National Type NL-	Net Each 1-99*	V_{DRM} V	National Type NL-	Net Each 1-99*
100	C37A	$3.22	500	C37E	$7.50
200	C37B	4.42	600	C37M	8.47
300	C37C	5.47	700	C37S	9.30
400	C37D	6.45	800	C37N	9.97

Fig. C—Rated 35 amps rms; $I^2t = 160$ A^2sec. NL-C35A thru NL-C35N JEDEC 2N683 thru 2N692 respectively. NL-C38 Series $T_J = 150°$ C max.

V_{DRM} V	National Type	Net 1-99*	National Type	Net 1-99*
100	NL-C35A	$ 4.27	NL-C38A	$ 5.25
150	NL-C35G	5.02	NL-C38G	6.15
200	NL-C35B	5.77	NL-C38B	7.20
250	NL-C35H	6.30	NL-C38H	8.25
300	NL-C35C	6.97	NL-C38C	9.30
400	NL-C35D	8.10	NL-C38D	11.77
500	NL-C35E	9.30	NL-C38E	15.75
600	NL-C35M	10.20	.....	.....
700	NL-C35S	15.30	.....	.....
800	NL-C35N	20.25	.....	.....
900	NL-C35T	25.35	.....	.....
1000	NL-C35P	31.20	.....	.....

Fig. C—Rated 35 amps rms; $I^2t = 90$ A^2sec. Fast turn-off = 12 μsec max.

V_{DRM} V	National Type NL-	Net Each 1-99*	V_{DRM} V	National Type NL-	Net Each 1-99*
100	C40A	$13.42	300	C40C	$29.62
150	C40G	16.65	400	C40D	39.22
200	C40B	20.02	500	C40E	41.00
250	C40H	24.67			

Rated 55 amps rms; $I^2t = 2000$ A^2sec. All-diffused.

V_{DRM} V	National Type Fig. A NL-	National Type Fig. B NL-	Net Each, Lots of 1-9	Net Each, Lots of 10-99
100	C45A	C46A	$16.50	$10.00
150	C45G	C46G	17.00	10.25
200	C45B	C46B	17.50	10.50
250	C45H	C46H	18.50	11.00
300	C45C	C46C	19.50	11.75
400	C45D	C46D	22.50	13.50
500	C45E	C46E	33.50	20.00
600	C45M	C46M	45.50	27.50
700	C45S	C46S	54.00	32.50
800	C45N	C46N	65.00	39.00
900	C45T	C46T	77.00	46.25

NL-C52 and NL-C50 Series rated 110 amps rms; $I^2t = 4000$ A^2sec. All-diffused. NL-C152 and NL-C150 Series same except $dv/dt = 200$ V/μsec and $I^2t = 13{,}000$ A^2sec.

V_{DRM} V	National Type Fig. A NL-	National Type Fig. B NL-	Net Each 1-9*
100	C52A/2N1793	C50A/2N1911	$19.50
150	C52G/2N1794	C50G/2N1912	21.50
200	C52B/2N1795	C50B/2N1913	23.50
250	C52H/2N1796	C50H/2N1914	26.00
300	C52C/2N1797	C50C/2N1915	27.50
400	C52D/2N1798	C50D/2N1916	32.00
500	C52E/2N1799	C50E/2N1805	44.00
600	C52M/2N1800	C50M/2N1806	55.50
700	C52S/2N1801	C50S	67.00
800	C52N/2N1802	C50N	81.00
900	C52T/2N1803	C50T	94.00
500	C152E	C150E	36.00
600	C152M	C150M	40.00
700	C152S	C150S	46.00
800	C152N	C150N	50.00
900	C152T	C150T	55.00
1000	C152P	C150P	60.00
1100	C152PA	C150PA	64.00
1200	C152PB	C150PB	69.00
1300	C152PC	C150PC	75.00

Rated 110 amps rms; $I^2t = 10{,}700$ A^2sec. All-diffused. Types NL-C60A thru -C60D JEDEC 2N2025–2N2030 respectively. $T_J = 150°$ C max.

V_{DRM} V	National Type Fig. A	National Type Fig. B	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	NL-C62A	NL-C60A	$32.50	$19.50
150	NL-C62G	NL-C60G	34.50	20.75
200	NL-C62B	NL-C60B	35.00	21.00
250	NL-C62H	NL-C60H	36.00	21.50
300	NL-C62C	NL-C60C	37.00	22.25
400	NL-C62D	NL-C60D	40.00	24.00
500	NL-C62E	NL-C60E	55.50	33.50

Rated 110 amps rms; $dv/dt = 200$ V/sec; $I^2t = 8200$ A^2sec. Max. turn-off = 10 μsec (NL-C154, -156); 20 μsec (NL-C155, -157). All-diffused.

V_{DRM} V	National Type Fig. A NL-	National Type Fig. B NL-	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	C156A	C154A	$24.50	$14.75
200	C156B	C154B	32.50	19.50
300	C156C	C154C	36.50	22.00
400	C156D	C154D	44.50	26.75
500	C156E	C154E	54.00	32.50
600	C156M	C154M	60.75	36.50
100	C157A	C155A	24.50	14.75
200	C157B	C155B	30.00	18.00
300	C157C	C155C	35.50	21.25
400	C157D	C155D	41.00	24.50
500	C157E	C155E	49.50	29.75
600	C157M	C155M	58.00	34.75

Fig. D—Rated 175 amps rms; $dv/dt = 200$ V/μsec; $I^2t = 13{,}000$ A^2sec. All-diffused.

V_{DRM} V	National Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	NL-C350A	$19.00	$11.50
200	NL-C350B	22.50	13.50
300	NL-C350C	25.50	15.50
400	NL-C350D	28.00	16.75
500	NL-C350E	30.00	18.00
600	NL-C350M	34.00	20.50
700	NL-C350S	39.00	23.50
800	NL-C350N	43.00	25.75
900	NL-C350T	47.00	28.25
1000	NL-C350P	52.00	31.25
1100	NL-C350PA	56.00	33.50
1200	NL-C350PB	60.00	36.00
1300	NL-C350PC	68.00	40.75

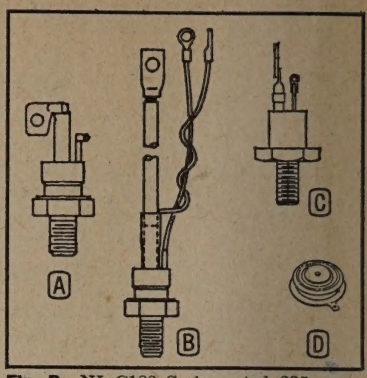


Fig. B—NL-C180 Series rated 235 amps rms; $dv/dt = 200$ V/μsec; $I^2t = 49{,}000$ A^2 sec. All-diffused. NL-C185 Series same except turn-off = 20 μsec max.

V_{DRM} V	National Type	Net Ea. Lotso 1-9	Net Ea. Lotso 10-99
100	NL-C180A	$ 40.00	$ 24.05
200	NL-C180B	43.00	25.70
300	NL-C180C	48.00	28.75
400	NL-C180D	54.00	32.50
500	NL-C180E	64.00	38.50
600	NL-C180M	72.00	43.25
700	NL-C180S	81.00	48.75
800	NL-C180N	90.00	54.00
900	NL-C180T	100.00	60.00
1000	NL-C180P	108.00	65.00
1100	NL-C180PA	118.00	71.00
1200	NL-C180PB	128.00	77.00
1300	NL-C180PC	138.00	83.00
100	NL-C185A	54.00	32.50
200	NL-C185B	58.00	34.75
300	NL-C185C	64.00	38.50
400	NL-C185D	72.00	43.25
500	NL-C185E	84.00	50.50
600	NL-C185M	98.00	58.75

Fig. D—Rated 380 amps rms; $dv/dt = 200$ V/μsec; $I^2t = 50{,}000$ A^2sec. All-diffused.

V_{DRM} V	National Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	NL-C380A	$ 32.00	$19.25
200	NL-C380B	34.00	20.50
300	NL-C380C	38.00	23.00
400	NL-C380D	44.00	26.50
500	NL-C380E	52.00	31.25
600	NL-C380M	60.00	36.00
700	NL-C380S	68.00	41.00
800	NL-C380N	76.00	45.75
900	NL-C380T	84.00	50.50
1000	NL-C380P	92.00	55.25
1100	NL-C380PA	102.00	61.25
1200	NL-C380PB	110.00	66.00
1300	NL-C380PC	118.00	71.00

Fig. B—Rated 470 amps rms; $dv/dt = 100$ V/μsec; $I^2t = 120{,}000$ A^2sec. All-diffused. Flat mount base available at same price. Use prefix NL-C291.

V_{DRM} V	National Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	NL-C290A	$ 50.00	$ 30.00
200	NL-C290B	59.00	35.50
300	NL-C290C	70.00	42.00
400	NL-C290D	80.00	48.00
500	NL-C290E	96.00	57.50
600	NL-C290M	108.00	64.75
700	NL-C290S	118.00	70.75
800	NL-C290N	128.00	76.75
900	NL-C290T	138.00	82.75
1000	NL-C290P	148.00	88.75
1100	NL-C290PA	158.00	94.75
1200	NL-C290PB	172.00	103.25

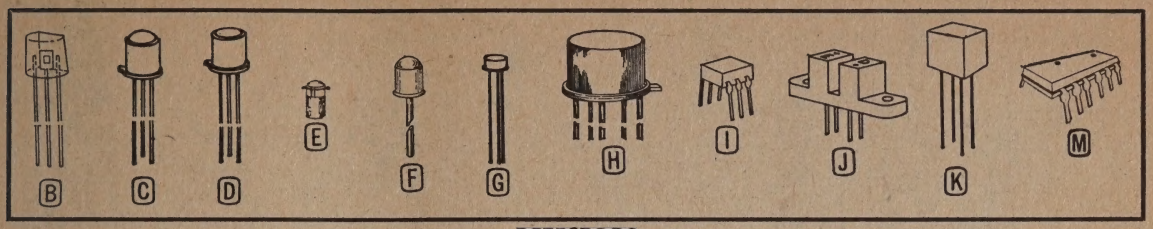
Fig. D—Rated 850 amps rms; $dv/dt = 100$ V/μsec; $I^2t = 200{,}000$ A^2sec. All-diffused.

V_{DRM} V	National Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	NL-C501A	$ 74.00	$ 44.50
200	NL-C501B	79.00	47.50
300	NL-C501C	85.75	51.50
400	NL-C501D	96.00	57.50
500	NL-C501E	107.00	64.25
600	NL-C501M	118.25	71.00
700	NL-C501S	132.00	79.25
800	NL-C501N	144.00	86.50
900	NL-C501T	154.00	92.50
1000	NL-C501P	164.00	98.50
1100	NL-C501PA	178.00	106.75
1200	NL-C501PB	190.00	114.00
1300	NL-C501PC	204.00	122.50
1400	NL-C501PD	224.00	134.50
1500	NL-C501PE	244.00	146.50
1600	NL-C501PM	262.00	157.25
1700	NL-C501PS	280.00	168.00

★OEM PRICES ON LARGER QUANTITIES AVAILABLE. SCR VALUES 16 A rms THRU 1200 A rms AVAILABLE ON REQUEST.

SOLID STATE

OPTOELECTRONICS



DETECTORS

PHOTO TRANSISTORS

GE Type	Fig.	Minimum Sensitivity mA/mW/cm²	BV_{CEO} Volts	I_D Max. nA	Typical t_r µsec	Typical t_f µsec	Size, Inches Dia. x Lgth.
L15AX601	E	.075	50	25	3	3	.092 x .115
L15AX602	E	.125	50	25	3	3	.092 x .115
L15AX603	E	.20	50	25	3	3	.092 x .115
L15AX604	E	.35	50	25	3	3	.092 x .115
L15A600	E	.05	40	100	3	3	.092 x .115
L15E	F	.15	40	100	3	3	.095 x .115
L14A502	C	.3	45	100	5	5	.230 x .255
L14E1	B	.005	50	100	6	6	.170 x .210
L14E2	B	.01	50	100	15	10	.170 x .210
L14E3	B	.04	50	100	20	15	.170 x .210
L14E4	B	.005	50	10	20	15	.170 x .210
L14C1	D	.1	45	10	5	5	.230 x .170
L14G1	C	.6	45	100	5	5	.230 x .255
L14G2	C	.3	45	100	5	5	.230 x .255
PHOTO DARLINGTON							
2N5777	B	.25	25	100	75	50	.170 x .210
2N5778	B	.25	40	100	75	50	.170 x .210
2N5779	B	1.0	25	100	75	50	.170 x .210
2N5780	B	1.0	40	100	75	50	.170 x .210
L14F	C	15	25	100	75	50	.230 x .255

PHOTO SWITCHES

GE Type	Fig.	Irradiance To Trigger mW/cm²	Blocking Volts	I_D Max. µA	V_F Volts	Size, Inches Dia. x Lgth.
L1V	C	10	40	1	2.0	.230 x .255
L14T1	B	.2	40	100 nA	1.6	.170 x .210
L8	G	4.2	25–200	10	1.4	.370 x .260
L9	G	10	25–200	10	1.4	.370 x .260

COUPLERS

PHOTO TRANSISTOR OUTPUT

GE Type	Fig.	Isolation Volts	Minimum Current Transfer Ratio	I_D nA	BV_{CEO} Volts	Typical t_r µsec	Typical t_f µsec	Size, Inches W. x Lgth.
H10A1	H	1000	20%	100	40	3	3	.370* x .260
H11A1	I	2500	50%	50	30	2	2	.385 x .280
H11A2	I	1500	20%	50	30	2	2	.385 x .280
H11A3	I	2500	20%	50	30	2	2	.385 x .280
H11A4	I	1500	10%	50	30	2	2	.385 x .280
H11A5	I	1000	10%	500	30	2	2	.385 x .280
H15A1	K	4000	20%	100	30	3	3	.250 x .375
H15A2	K	4000	10%	100	30	3	3	.250 x .375
H211A1	M	2500	50%	50	30	2	2	.385 x .785
H211A2	M	1500	20%	50	30	2	2	.385 x .785
4N35	I	2500 rms	100%	50	30	5	5	.385 x .280
4N36	I	1750 rms	100%	50	30	5	5	.385 x .280
4N37	I	1050 rms	100%	50	30	5	5	.385 x .280
PHOTO DARLINGTON OUTPUT								
H10B1	H	1000	200%	100	25	125	100	.370* x .260
H11B1	I	2500	500%	100	25	125	100	.385 x .280
H11B2	I	1500	200%	100	25	125	100	.385 x .280
H15B1	K	4000	400%	100	25	125	100	.250 x .375
H15B2	K	4000	200%	100	25	125	100	.250 x .375
H211B1	M	2500	500%	100	25	125	100	.385 x .785
H211B2	M	1500	200%	100	25	125	100	.385 x .785

PHOTO SCR

GE Type	Fig.	Isolation Volts	I_F to Trigger mA	I_D µA	Blocking Volts	Typical t_{on} µsec	V_F Volts	Size, Inches W. x Lgth.
H10C1	H	1000	50	10	200	1	1.5	.370* x .260
H11C1	I	2500	20	2	200	.....	1.5	.385 x .280
H11C2	I	1500	20	2	200	.....	1.5	.385 x .280
H211C1	M	2500	20	2	200	.....	1.5	.385 x .785
H211C2	M	1500	20	2	200	.....	1.5	.385* x .785

*Diameter.

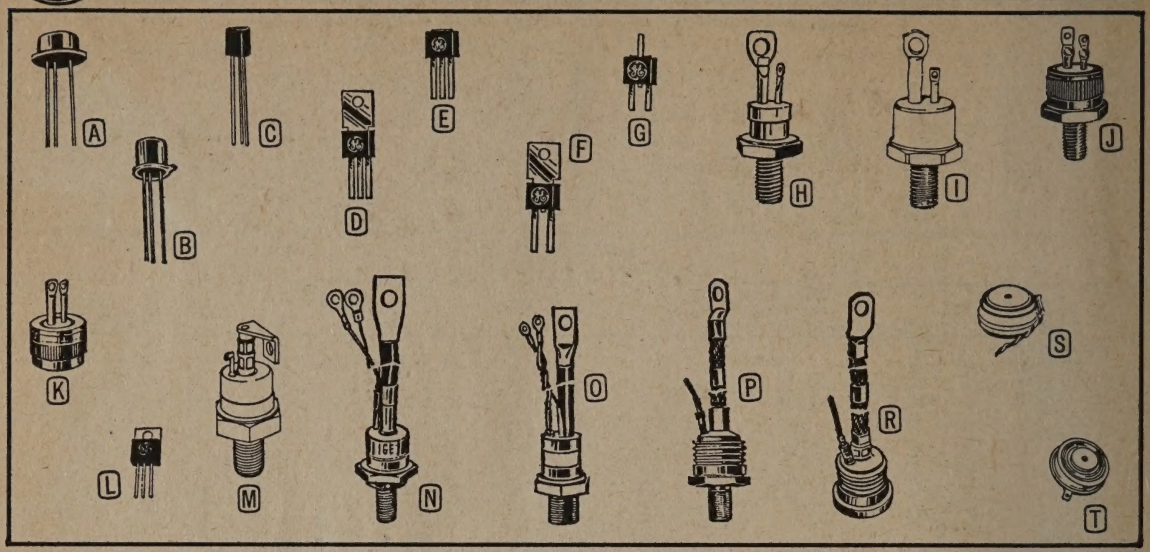
PHOTON COUPLED INTERRUPTER MODULES

PHOTO TRANSISTOR OUTPUT

GE Type	Fig.	Output Current* µA	I_D nA	BV_{CEO} Volts	Typical t_{on} µsec	Typical t_f µsec	Size, Inches ‡ x Lgth.
H13A1	J	200	100	30	5	5	.125 x .984
H13A2	J	50	100	30	5	5	.125 x .984
H17A1	B	50	100	30	5	5	.170 x .210
PHOTO DARLINGTON OUTPUT							
H13B1	J	1000†	100	25	150	150	.125 x .984
H13B2	J	500†	100	25	150	150	.125 x .984
H17B1	B	1000	100	25	150	150	.170 x .210

*At I_F = 20 mA. †At I_F = 10 mA. ‡Length between pins.

Silicon Controlled Rectifiers



SCR'S FOR PHASE CONTROL

"Phase Control" is a term used to describe silicon controlled rectifiers having slow turn-off time. Primary application for a device with relatively slow turn-off time are AC phase control—hence the name "phase control". This type of device is also used for zero voltage switching and selected pulse applications.

15 VOLTS TO 500 VOLTS

rms Current Amps	Fig.	GE Type For Repetitive Peak Forward and Blocking Voltage of (Volts) 15	25	30	50	100	150	200	250	300	400	500
0.5	B	. . . .	. . . .	2N877	2N878*	2N879	2N880	2N881	. . . .	. . . .	. . . .	. . . .
0.8	C	. . . .	. . . .	C103Y	C103YY*	C103A	. . . .	C103B	. . . .	. . . .	. . . .	. . . .
1.6	A	. . . .	2N2344	. . . .	2N2345	2N2346	2N2347	2N2348	. . . .	. . . .	. . . .	. . . .
1.6	A	. . . .	2N2322	. . . .	2N2323	2N2324	2N2325	2N2326	2N2327	2N2328	2N2329	. . . .
1.6	A	. . . .	. . . .	. . . .	2N1595	2N1596	. . . .	2N1597	2N1598	2N1599	. . . .	. . . .
4.0	D,E,F,G	C106Q	. . . .	C106Y	C106F	C106A	. . . .	C106B	. . . .	C106C	. . . .	. . . .
4.0	D,E,F,G	C107Q	. . . .	C107Y	C107F	C107A	. . . .	C107B	. . . .	C107C	. . . .	. . . .
7.4	H	. . . .	C10U	. . . .	C10F	C10A	C10G	C10B	C10H	C10C	C10D	. . . .
7.4	H	. . . .	2N1770A	. . . .	2N1771A	2N1772A	2N1773A	2N1774A	2N1775A	2N1776A	2N1777A	. . . .
7.4	H	. . . .	C11U	. . . .	C11F	C11A	C11G	C11B	C11H	C11C	C11D	. . . .
7.4	H	. . . .	2N1770	. . . .	2N1771	2N1772	2N1773	2N1774	2N1775	2N1776	2N1777	2N1778
7.4	J	. . . .	C220U	. . . .	C220F	C220A	. . . .	C220B	. . . .	C220C	C220D	C220E
7.4	K	. . . .	C222U	. . . .	C222F	C222A	. . . .	C222B	. . . .	C222C	C222D	C222E
8.0	H	. . . .	C15	. . . .	C15F	C15A	C15G	C15B	C15H	C15C	C15D	C15E
8.0	L	. . . .	. . . .	. . . .	C122F	. . . .	. . . .	C122B	. . . .	. . . .	C122D	C122E
16.0	H	. . . .	2N1842	. . . .	2N1843	2N1844	2N1845	2N1846	2N1847	2N1848	2N1849	2N1850
16.0	H	. . . .	C36U	. . . .	C36F	C36A	C36G	C36B	C36H	C36C	C36D	C36E
25.0	J	. . . .	C230U	. . . .	C230F	C230A	. . . .	C230B	C230H	C230C	C230D	C230E
25.0	J	. . . .	C231U	. . . .	C231F	C231A	. . . .	C231B	C231H	C231C	C231D	C231E
25.0	K	. . . .	C232U	. . . .	C232F	C232A	. . . .	C232B	C232H	C232C	C232D	C232E
25.0	K	. . . .	C233U	. . . .	C233F	C233A	. . . .	C233B	C233H	C233C	C233D	C233E
25.0	H	. . . .	C37U	. . . .	C37F	C37A	. . . .	C37B	. . . .	C37C	C37D	C37E
25.0	H	. . . .	2N681	. . . .	2N682	2N683	2N684	2N685	2N686	2N687	2N688	2N689
35.0	H	. . . .	C35U	. . . .	C35F	C35A	C35G	C35B	C35H	C35C	C35D	C35E
35.0	H	. . . .	C38U	. . . .	C38F	C38A	C38G	C38B	C38H	C38C	C38D	C38E
35.0	H	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	C137E
55.0	M	. . . .	C45U	. . . .	C45F	C45A	C45G	C45B	C45H	C45C	C45D	C45E
55.0	N	. . . .	C46U	. . . .	C46F	C46A	C46G	C46B	C46H	C46C	C46D	C46E
63.0	I	. . . .	C147U	. . . .	C147F	C147A	C147G	C147B	C147H	C147C	C147D	C147E
110.0	N	. . . .	2N1909	. . . .	2N1910	2N1911	2N1912	2N1913	2N1914	2N1915	2N1916	C50E
110.0	M	. . . .	C52U	. . . .	2N1792	2N1793	2N1794	2N1795	2N1796	2N1797	2N1798	C52E
110.0	N	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	C150E
110.0	M	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	C152E
110.0	N	. . . .	2N2023	. . . .	2N2024	2N2025	2N2026	2N2027	2N2028	2N2029	2N2030	C60E
110.0	M	. . . .	C62U	. . . .	C62F	C62A	C62G	C62B	C62H	C62C	C62D	C62E

*60 volts.

600 VOLTS TO 1300 VOLTS

rms Current Amps	Fig.	GE Type For Repetitive Peak Forward and Blocking Voltage of (Volts) 600	700	800	900	1000	1100	1200	1300
25.0	H	C37M*	C37S	C37N	. . . .	. . . .	. . . .	. . . .	. . . .
25.0	H	2N690	2N691	2N692	. . . .	. . . .	. . . .	. . . .	. . . .
35.0	H	C35M	C35S	C35N	. . . .	. . . .	. . . .	. . . .	. . . .
35.0	H	C137M	C137S	C137N	C137T	C137P	C137PA	. . . .	. . . .
35.0	H	2N5204	. . . .	2N5205	. . . .	2N5206	. . . .	2N5207	. . . .
55.0	M	C45M	C45S	C45N	. . . .	. . . .	. . . .	. . . .	. . . .
55.0	N	C46M	C46S	C46N	. . . .	. . . .	. . . .	. . . .	. . . .
63.0	I	C147M	C147S	C147N	C147T	C147P	C147PA	C147PB	. . . .
110.0	N	C50M	C50S	C50N	. . . .	. . . .	. . . .	. . . .	. . . .
110.0	M	C52M	C52S	C52N	. . . .	. . . .	. . . .	. . . .	. . . .
110.0	N	C150M	C150S	C150N	C150T	C150P	C150PA	C150PB	C150PC
110.0	M	C152M	C152S	C152N	C152T	C152P	C152PA	C152PB	C152PC
110.0	N	C60M	C60S	C60N	. . . .	. . . .	. . . .	. . . .	. . . .
110.0	M	C62M	C62S	C62N	. . . .	. . . .	. . . .	. . . .	. . . .

*Also available at 7.4 amps (600 volts); order by GE Type 2N2619 (Fig. H).

Silicon Controlled Rectifiers

HIGH CURRENT SCR's FOR PHASE CONTROL

See previous page for illustrations.

GE Type	Fig.	Volts*	rms Amps	GE Type	Fig.	Volts*	rms Amps
C350A	T	100	180	C287PA	R	1000	400
C350B	T	200	180	C287PB	R	1200	400
C350C	T	300	180	C287PC	R	1300	400
C350D	T	400	180	C287PD	R	1400	400
C350E	T	500	180	C287PE	R	1500	400
C350M	T	600	180	C287PM	R	1600	400
C350S	T	700	180	C290A	P	100	470
C350N	T	800	180	C290B	P	200	470
C350T	T	900	180	C290C	P	300	470
C350P	T	1000	180	C290D	P	400	470
C350PA	T	1100	180	C290E	P	500	470
C350PB	T	1200	180	C290M	P	600	470
C350PC	T	1300	180	C290S	P	700	470
C180E	O	500	235	C290N	P	800	470
C180M	O	600	235	C290T	P	900	470
C180S	O	700	235	C290P	P	1000	470
C180N	O	800	235	C290PA	P	1100	470
C180T	O	900	235	C290PB	P	1200	470
C180P	O	1000	235	C291A	R	100	470
C180PA	O	1100	235	C291B	R	200	470
C180PB	O	1200	235	C291C	R	300	470
C180PC	O	1300	235	C291D	R	400	470
C280S	P	700	235	C291E	R	500	470
C280N	P	800	235	C291M	R	600	470
C280T	P	900	235	C291S	R	700	470
C280P	P	1000	235	C291N	R	800	470
C280PA	P	1100	235	C291T	R	900	470
C280PB	P	1200	235	C291P	R	1000	470
C280PC	P	1300	235	C291PA	R	1100	470
C280PD	P	1400	235	C291PB	R	1200	470
C280PE	P	1500	235	C390E	T	500	850
C280PM	P	1600	235	C390M	T	600	850
C280PS	P	1700	235	C390S	T	700	850
C380A	T	100	380	C390N	T	800	850
C380B	T	200	380	C390T	T	900	850
C380C	T	300	380	C390P	T	1000	850
C380D	T	400	380	C390PA	T	1100	850
C380E	T	500	380	C390PB	T	1200	850
C380M	T	600	380	C501M	S	600	850
C380S	T	700	380	C501S	S	700	850
C380N	T	800	380	C501N	S	800	850
C380T	T	900	380	C501T	S	900	850
C380P	T	1000	380	C501P	S	1000	850
C380PA	T	1100	380	C501PA	S	1100	850
C380PB	T	1200	380	C501PB	S	1200	850
C380PC	T	1300	380	C501PC	S	1300	850
C282S	P	700	400	C501PD	S	1400	850
C282N	P	800	400	C501PE	S	1500	850
C282T	P	900	400	C501PM	S	1600	850
C282P	P	1000	400	C501PS	S	1700	850
C282PA	P	1100	400	C530A	S	100	1100
C282PB	P	1200	400	C530B	S	200	1100
C282PC	P	1300	400	C530C	S	300	1100
C282PD	P	1400	400	C530D	S	400	1100
C282PE	P	1500	400	C530E	S	500	1100
C282PM	P	1600	400	C530M	S	600	1100
C282PS	P	1700	400	C520A	S	100	1250
C283S	R	700	400	C520B	S	200	1250
C283N	R	800	400	C520C	S	300	1250
C283T	R	900	400	C520D	S	400	1250
C283P	R	1000	400	C600E	T	500	1400
C283PA	R	1100	400	C600M	T	600	1400
C283PB	R	1200	400	C600S	T	700	1400
C283PC	R	1300	400	C600N	T	800	1400
C283PD	R	1400	400	C600T	T	900	1400
C283PE	R	1500	400	C600P	T	1000	1400
C283PM	R	1600	400	C600PA	T	1100	1400
C283PS	R	1700	400	C600PB	T	1200	1400
C286S	P	700	400	C601PA	T	1100	1100
C286N	P	800	400	C601PB	T	1200	1100
C286T	P	900	400	C601PC	T	1300	1100
C286P	P	1000	400	C601PD	T	1400	1100
C286PA	P	1100	400	C601PE	T	1500	1100
C286PB	P	1200	400	C601PM	T	1600	1100
C286PC	P	1300	400	C601PS	T	1700	1100
C286PD	P	1400	400	C701PA	T	1100	1950
C286PE	P	1500	400	C701PB	T	1200	1950
C286PM	P	1600	400	C701PD	T	1400	1950
C287S	R	700	400	C701PE	T	1500	1950
C287N	R	800	400	C701PM	T	1600	1950
C287T	R	900	400	C701PS	T	1700	1950
C287P	R	1000	400				

GE Series C602—(940 amps) available from 1600 to 2600 volts; write for more information.

*Repetitive peak forward and reverse voltage.

SCR's FOR INVERTERS

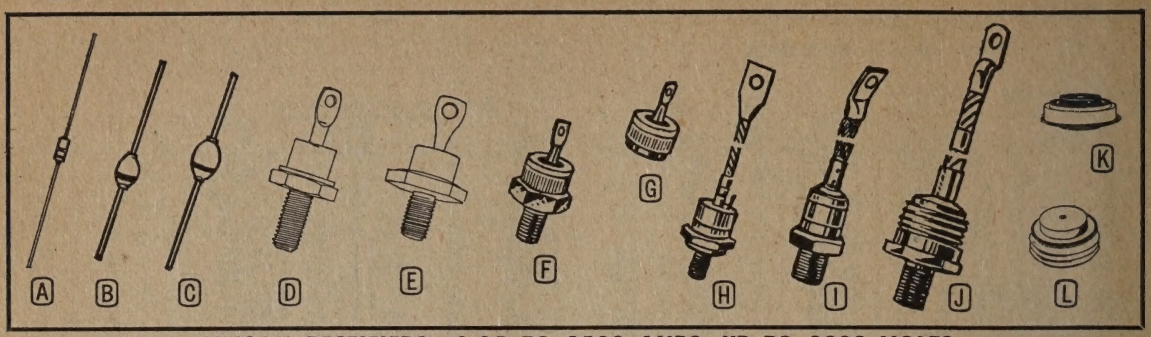
These SCR's are optimized for turn-off time (commutation speed), capability and other dynamic characteristics. Ideal for AC/DC inverters, choppers and other pulse applications requiring high speed capability.

See previous page for illustrations.

GE Type	Fig.	Volts‡	rms Amps	GE Type	Fig.	Volts‡	rms Amps
C140F*	H	50	35	C358P	T	1000	225
C140A*	H	100	35	C358PA	T	1100	225
C140B*	H	200	35	C358PB	T	1200	225
C140C*	H	300	35	C185A	O	100	300
C140D*	H	400	35	C185B	O	200	300
C141F†	H	50	35	C185C	O	300	300
C141A†	H	100	35	C185D	O	400	300
C141B†	H	200	35	C185E	O	500	300
C141C†	H	300	35	C185M	O	600	300
C141D†	H	400	35	C364A	S	100	275
C138E	H	500	35	C364B	S	200	275
C138M	H	600	35	C364C	S	300	275
C138S	H	700	35	C364D	S	400	275
C138N	H	800	35	C364E	S	500	275
C139E	H	500	35	C364M	S	600	275
C139M	H	600	35	C365A	S	100	275
C139S	H	700	35	C365B	S	200	275
C139N	H	800	35	C365C	S	300	275
C144E	H	500	35	C365D	S	400	275
C144M	H	600	35	C365E	S	500	275
C144S	H	700	35	C365M	S	600	275
C144N	H	800	35	C385A	S	100	400
C149A	I	100	63	C385B	S	200	400
C149B	I	200	63	C385C	S	300	400
C149C	I	300	63	C385D	S	400	400
C149D	I	400	63	C385E	S	500	400
C149E	I	500	63	C385M	S	600	400
C149M	I	600	63	C387E	T	500	550
C151E	N	500	110	C387M	T	600	550
C151M	N	600	110	C387S	T	700	550
C151S	N	700	110	C387N	T	800	550
C151N	N	800	110	C387T	T	900	550
C151T	N	900	110	C387P	T	1000	550
C151P	N	1000	110	C387PA	T	1100	550
C153E	M	500	110	C387PB	T	1200	550
C153M	M	600	110	C388E	T	500	550
C153S	M	700	110	C388M	T	600	550
C153N	M	800	110	C388S	T	700	550
C153T	M	900	110	C388N	T	800	550
C153P	M	1000	110	C388T	T	900	550
C154A	N	100	110	C388P	T	1000	550
C154B	N	200	110	C388PA	T	1100	550
C154C	N	300	110	C388PB	T	1200	550
C154D	N	400	110	C397E	T	500	700
C154E	N	500	110	C397M	T	600	700
C154M	N	600	110	C397S	T	700	700
C156A	M	100	110	C397N	T	800	700
C156B	M	200	110	C397T	T	900	700
C156C	M	300	110	C397P	T	1000	700
C156D	M	400	110	C397PA	T	1100	700
C156E	M	500	110	C397PB	T	1200	700
C156M	M	600	110	C398E	T	500	700
C155A	N	100	110	C398M	T	600	700
C155B	N	200	110	C398S	T	700	700
C155C	N	300	110	C398N	T	800	700
C155D	N	400	110	C398T	T	900	700
C155E	N	500	110	C398P	T	1000	700
C155M	N	600	110	C398PA	T	1100	700
C157A	M	100	110	C398PB	T	1200	700
C157B	M	200	110	C392A	T	100	500
C157C	M	300	110	C392B	T	200	500
C157D	M	400	110	C392C	T	300	500
C157E	M	500	110	C392D	T	400	500
C157M	M	600	110	C392E	T	500	500
C158E	N	500	110	C392M	T	600	500
C158M	N	600	110	C393A	T	100	500
C158S	N	700	110	C393B	T	200	500
C158N	N	800	110	C393C	T	300	500
C158T	N	900	110	C393D	T	400	500
C158P	N	1000	110	C393E	T	500	500
C158PA	N	1100	110	C393M	T	600	500
C158PB	N	1200	110	C394A	T	100	700
C159E	M	500	110	C394B	T	200	700
C159M	M	600	110	C394C	T	300	700
C159S	M	700	110	C394D	T	400	700
C159N	M	800	110	C394E	T	500	700
C159T	M	900	110	C394M	T	600	700
C159P	M	1000	110	C395A	T	100	700
C159PA	M	1100	110	C395B	T	200	700
C159PB	M	1200	110	C395C	T	300	700
C354A	T	100	215	C395D	T	400	700
C354B	T	200	215	C395E	T	500	700
C354C	T	300	215	C395M	T	600	700
C354D	T	400	215	C509M	T	600	775
C354E	T	500	215	C509S	T	700	775
C354M	T	600	215	C509N	T	800	775
C355A	T	100	215	C509T	T	900	775
C355B	T	200	215	C509P	T	1000	775
C355C	T	300	215	C509PA	T	1100	775
C355D	T	400	215	C509PB	T	1200	775
C355E	T	500	215	C609M	T	600	1000
C355M	T	600	215	C609S	T	700	1000
C358E	T	500	225	C609N	T	800	1000
C358M	T	600	225	C609T	T	900	1000
C358S	T	700	225	C609P	T	1000	1000
C358N	T	800	225	C609PA	T	1100	1000
C358T	T	900	225	C609PB	T	1200	1000

*Also available as 2N3649, 50, 51, 52 and 53. †Also available as 2N3654, 55, 56, 57 and 58. ‡Repetitive peak forward and reverse voltage.

Silicon Rectifiers

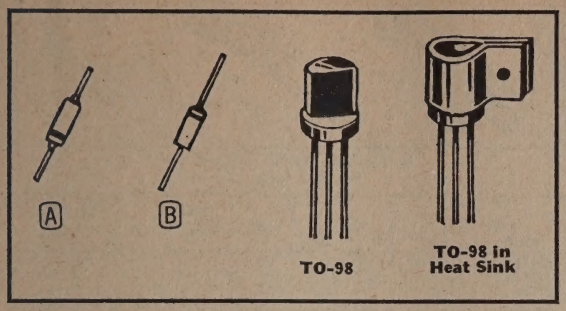


SILICON RECTIFIERS—0.25 TO 1500 AMPS, UP TO 3000 VOLTS

GE Type	Fig.	I_F* Amps	I_{Fm}† Amps	Volts‡
DT230F	A	.25	5	50
DT230A	A	.25	5	100
DT230B	A	.25	5	200
A14F	B	1	50	50
A14A	B	1	50	100
1N5059	B	1	50	200
A14C	B	1	50	300
1N5060	B	1	50	400
A14E	B	1	50	500
1N5061	B	1	50	600
1N5062	B	1	50	800
A14P	B	1	50	1000
A14D	B	1	50	1400
1N4245	B	1	25	200
1N4246	B	1	25	400
1N4247	B	1	25	600
1N4248	B	1	25	800
1N4249	B	1	25	1000
A14F§	B	1	40	50
A14A§	B	1	40	100
A14B§	B	1	40	200
A14C§	B	1	40	300
A14D§	B	1	40	400
A14E§	B	1	40	500
A14M§	B	1	40	600
A14N§	B	1	40	800
A15F	C	3	125	50
A15A	C	3	125	100
1N5624	C	3	125	200
A15C	C	3	125	300
1N5625	C	3	125	400
1N5626	C	3	125	600
1N5627	C	3	125	800
A115F§	C	3	110	50
A115A§	C	3	110	100
A115B§	C	3	110	200
A115C§	C	3	110	300
A115D§	C	3	110	400
A115E§	C	3	110	500
A115M§	C	3	110	600
1N1612	D	5	150	50
1N1613	D	5	150	100
1N1614	D	5	150	200
1N1615	D	5	150	400
1N1616	D	5	150	600
1N1341A	D	6	150	50
1N1342A	D	6	150	100
1N1344A	D	6	150	200
1N1345A	D	6	150	300
1N1346A	D	6	150	400
1N1347A	D	6	150	500
1N1348A	D	6	150	600
1N3988	D	6	150	800
1N3990	D	6	150	1000
1N3879§	D	6	75	50
1N3880§	D	6	75	100
1N3881§	D	6	75	200
1N3882§	D	6	75	300
1N3883§	D	6	75	400
1N1199A	D	12	240	50
1N1200A	D	12	240	100
1N1202A	D	12	240	200
1N1203A	D	12	240	300
1N1204A	D	12	240	400
1N1205A	D	12	240	500
1N1206A	D	12	240	600
1N3671A	D	12	240	800
1N3673A	D	12	240	1000
1N5331	D	12	240	1200
1N3889§	D	12	150	50
1N3890§	D	12	150	100
1N3891§	D	12	150	200
1N3892§	D	12	150	300
1N3893§	D	12	150	400
A129M§	D	12	150	600
A129N§	D	12	150	800
A129P§	D	12	150	1000
A129PB§	D	12	150	1200
A28F§	D	12	240	50
A28A§	D	12	240	100
A28B§	D	12	240	200
A28C§	D	12	240	300
A28D§	D	12	240	400
1N248B	E	20	350	50
1N249B	E	20	350	100
1N250B	E	20	350	200
1N1195A	E	20	350	300
1N1196A	E	20	350	400
1N1197A	E	20	350	500
1N1198A	E	20	350	600
1N3899§	E	20	225	50
1N3900§	E	20	225	100
1N3901§	E	20	225	200
1N3902§	E	20	225	300
1N3903§	E	20	225	400
1N3208	F	20	300	50
1N3209	F	20	300	100
1N3210	F	20	300	200
1N3211	F	20	300	300
1N3212	F	20	300	400
1N3213	F	20	300	500
1N3214	F	20	300	600
A44F	G	20	300	50
A44A	G	20	300	100
A44B	G	20	300	200
A44C	G	20	300	300
A44D	G	20	300	400
A44E	G	20	300	500
A44M	G	20	300	600
A139E	G	20	400	500
A139M	G	20	400	600
A139N	G	20	400	800
A139P	G	20	400	1000
A139PB	G	20	400	1200
1N2154	E	25	400	50
1N2155	E	25	400	100
1N2156	E	25	400	200
1N2157	E	25	400	300
1N2158	E	25	400	400
1N2159	E	25	400	500
1N2160	E	25	400	600
1N3909§	E	30	300	50
1N3910§	E	30	300	100
1N3911§	E	30	300	200
1N3912§	E	30	300	300
1N3913§	E	30	300	400
1N1183	E	35	500	50
1N1184	E	35	500	100
1N1186	E	35	500	200
1N1187	E	35	500	300
1N1188	E	35	500	400
1N1189	E	35	500	500
1N1190	E	35	500	600
1N3766	E	35	500	800
1N3768	E	35	500	1000
1N5332	E	35	500	1200
A70B 1N3289	H	100	1600	200
A70C 1N3290	H	100	1600	300
A70D 1N3291	H	100	1600	400
A70E 1N3292	H	100	1600	500
A70M 1N3293	H	100	1600	600
A70N 1N3294	H	100	1600	800
A70P 1N3295	H	100	1600	1000
A70PB 1N3296	H	100	1600	1200
1N3260	I	160	2000	50
1N3261	I	160	2000	100
1N3263	I	160	2000	200
1N3265	I	160	2000	300
1N3267	I	160	2000	400
1N3268	I	160	2000	500
1N3269	I	160	2000	600
1N3271	I	160	2000	800
1N3273	I	160	2000	1000
A90A 1N3735	I	250	4500	100
A90B 1N3736	I	250	4500	200
A90C 1N3737	I	250	4500	300
A90D 1N3738	I	250	4500	400
A90E 1N3739	I	250	4500	500
A90M 1N3740	I	250	4500	600
A90N 1N3741	I	250	4500	800
A90P 1N3742	I	250	4500	1000
A90PB	I	250	4500	1200
A96A	I	250	3300	100
A96B	I	250	3300	200
A96C	I	250	3300	300
A96D	I	250	3300	400
A96E	I	250	3300	500
A96M	I	250	3300	600
A96N	I	250	3300	800
A96P	I	250	3300	1000
A291PC	J	250	4500	1300
A291PD	J	250	4500	1400
A291PE	J	250	4500	1500
A291PM	J	250	4500	1600
1N4044	I	275	5000	50
1N4045	I	275	5000	100
1N4047	I	275	5000	200
1N4049	I	275	5000	300
1N4050	I	275	5000	400
1N4051	I	275	5000	500
1N4052	I	275	5000	600
1N4054	I	275	5000	800
1N4056	I	275	5000	1000
A390M	K	400	4500	600
A390N	K	400	4500	800
A390P	K	400	4500	1000
A390PB	K	400	4500	1200
A396A	K	400	3300	100
A396B	K	400	3300	200
A396C	K	400	3300	300
A396D	K	400	3300	400
A396E	K	400	3300	500
A295B	J	500	7000	200
A295C	J	500	7000	300
A295D	J	500	7000	400
A295E	J	500	7000	500
A295M	J	500	7000	600
A295N	J	500	7000	800
A295P	J	500	7000	1000
A295PB#	J	500	7000	1200
A540A	L	1000	10000	100
A540B	L	1000	10000	200
A540C	L	1000	10000	300
A540D	L	1000	10000	400
A540E	L	1000	10000	500
A540M	L	1000	10000	600
A540N	L	1000	10000	800
A540P	L	1000	10000	1000
A540PB	L	1000	10000	1200
A540PD•	L	1000	10000	1400
A570A	L	1500	15000	100
A570B	L	1500	15000	200
A570C	L	1500	15000	300
A570D	L	1500	15000	400
A570E	L	1500	15000	500
A570M	L	1500	15000	600
A570N	L	1500	15000	800
A570P	L	1500	15000	1000

*Avg. forward current. †Surge current. ‡Maximum repetitive reverse voltage. §Fast recovery types. #Series A295 available up to 1800, write for information; also available is series A510 (I_F = 740A, I_{Fm} = 8400A, Fig. L) from 500–3000 volts, write for complete information. •Series A540 available up to 1800 volts, write for information.

SILICON SIGNAL DIODES AND TRANSISTORS



SILICON SIGNAL DIODES (DO-35 PACKAGE)

GE Type	Min. B_V V	Min. B_V μA	V_F at I_F V	I_F at I_F mA	Max. I_R at 25° C nA	Max. I_R at 25° C V	Max. Cap. at 0 V pF	t_{rr} nsec
1N914	100	100	1.0	10	25	20	4	4
1N914A	100	100	1.0	20	25	20	4	4
1N914B	100	100	1.0	100	25	20	4	4
1N916	100	100	1.0	10	25	20	2	4
1N916A	100	100	1.0	20	25	20	2	4
1N916B	100	100	1.0	30	25	20	2	4
1N4148*	100	100	1.0	10	25	20	4	4
1N4149	100	100	1.0	10	25	20	2	4
1N4150*	50	1	1.0	200	100	50	2.5	6†
1N4151	75	5	1.0	50	50	50	2	2
1N4152	40	5	0.88	20	50	30	2	2
1N4153*	75	5	0.88	20	50	50	2	2
1N4154	35	5	1.0	30	100	25	4	2
1N4305	75	5	0.85	10	100	50	2	2
1N4444	70	5	1.0	100	50	50	2	7‡
1N4446	100	100	1.0	20	25	20	4	4
1N4447	100	100	1.0	20	25	20	2	4
1N4448	100	100	1.0	100	25	20	4	4
1N4449	100	100	1.0	30	25	20	2	4
1N4450	40	5	1.0	200	50	30	4	4‡
1N4451	40	5	1.0	300	50	30	6	10‡
1N4454*	75	5	1.0	10	100	50	2	4‡
1N4606	85	100	1.0	200	100	50	4	4‡
1N4607	85	100	1.0	350	100	50	4	10‡
1N4608	85	100	1.0	450	100	50	4	10‡
1N4727	30	5	0.85	10	100	20	4	§
1N4863	70	5	1.2	100	50	50	2	7‡
1N4864	125	100	1.1	100	100	80	1.3	4
DZ800	2	5	0.8	10	2#	2	4	§
DZ805	15	5	0.8	10	2#	12	4	§
DZ806	25	5	0.8	10	2#	22	4	§
DA1701	100	100	1.0	50	50	50	1	2
DA1702	75	5	1.0	50	50	50	1	2
DA1703	40	5	1.0	50	50	30	2	2
DA1704	25	5	1.1	50	100	20	3	4
DT230A	100	.....	1.1	250	1000	250	5	300
DT230B	200	.....	1.1	250	1000	250	5	300
DT230F	50	.....	1.1	250	1000	250	5	300
DT230G	150	.....	1.1	250	1000	250	5	300
DT230H	250	.....	1.0	200	1000	250	5	300
DT230H1	250	.....	1.1	250	1000	250	5	300

*JAN and JANTX type available. †I_F = 10 mA, I_R = 1 mA, recovery to 0.1 mA. ‡I_F = I_R = 10 mA, recovery to 1.0 mA. §Q_S = 40 pC. #μA.

MULTIPELLET STABISTORS (FIG. A)

Power dissipation = 400 mW. Derate 2.67 mW/° C for T_A above 25° C. Capacitance value at f = 1 MHz.

GE Type	Min. B_V V	Min. B_V μA	Max. V_R V	V_F at I_F = 10 mA V	Max. I_R at 25° C nA	Max. I_R at 25° C V	Max. Cap. at 0 V pF
1N4156	30	5	20	1.38–1.58	50	20	25
1N4157	30	5	20	2.12–2.32	50	20	20
1N4453	30	5	20	.690–.800	50	20	30
1N4829	30	100	20	1.16–1.61	100	20	25
1N4830	30	100	20	1.90–2.35	100	20	20
1N5179	30	5	20	2.60–3.20	50	20	20
MPD200	30	5	30	1.39–1.54	30	30	15 typ.
MPD300	60	5	60	2.10–2.33	30	30	10 typ.
MPD400	90	5	90	2.80–3.07	30	30	7 typ.
STB567	12	5	12	1.31–1.61	.....	.....	.....
STB568	12	5	12	2.09–2.31	.....	.....	.....
STB569	12	5	20	2.72–3.01	.....	.....	.....

MHD (FIG. B)

Milli heatsink diodes rated 500 mW at 25° C free air.

GE Type	DHD Type	Max. I_R at 25° C	GE Type	DHD Type	Max. I_R at 25° C
1N4531*	1N914	25 nA	MA1701	DA1701	50 nA
1N4532	1N4454	100 nA	MA1702	DA1702	50 nA
1N4533	1N4152	50 nA	MA1703	DA1703	50 nA
1N4534	1N4153	50 nA	MA1704	DA1704	100 nA
1N4536	1N4154	100 nA			

*JAN and JANTX types available.

TO-98 plastic packaged devices engineered to deliver excellent performance with maximum value. NPN construction except as otherwise noted. All TO-98 devices can be supplied with leads formed to fit either a TO-5 or TO-18 socket; prices on request.

SMALL SIGNAL AMPLIFIERS

AUDIO TO 30 MHz

P_T = 360 mW.

GE Type	h_{FE} I_C = 2 mA	V_{CEO} V	Typ. $V_{CE(SAT)}$ V	NF dB	Typical C_{ob} pF	Typical f_t MHz
2N2711	30–90	18	0.2	.....	7	120
2N2712	75–225	18	0.2	.....	7	120
2N2923	90–180	25	0.2	15†	7	120
2N2924	150–300	25	0.2	15†	7	120
2N2925	235–470	25	0.2	15†	7	120
2N2926*	35–470	18	0.2	.....	7	120
2N3390	400–800	25	0.2	.....	7	120
2N3391	250–500	25	0.2	1.9	7	120
2N3391A	250–500	25	0.2	5.0	7	120
2N3392	150–300	25	0.2	15†	7	120
2N3393	90–180	25	0.2	15†	7	120
2N3394	55–110	25	0.2	15†	7	120
2N3395*	150–500	25	0.2	.....	7	120
2N3396*	90–500	25	0.2	.....	7	120
2N3397*	55–500	25	0.2	.....	7	120
2N3398*	55–800	25	0.2	.....	7	120
2N3721	60–660	18	0.2	.....	7	120
2N3900	250–500	18	0.2	1.9	7	120
2N3900A	250–500	18	0.2	5.0	7	120
2N3901	350–700	18	0.2	5.0	7	120
2N5172	100–500	25	0.25‡	.....	7	120
2N5998	150–300	25	0.1	0.5	4	350
2N5999#	150–300	25	0.1	0.5	4	350
2N6008	250–500	25	0.1	0.5	4	350
2N6009#	250–500	25	0.1	0.5	4	350

*Supplied in narrow spread, distinctively color-coded beta groups. †Input impedance, ohms. ‡Maximum. #PNP.

HIGH FREQUENCY AMPLIFIERS AND OSCILLATORS

262.5 kHz TO 100 MHz EPITAXIAL

GE Type	h_{FE} I_C = 2 mA	V_{CEO} V	Typ. $V_{CE(SAT)}$ V	Max. NF dB	Typical C_{ob} pF	Typical f_t MHz
2N3843	20–40	30	0.065	10.2	2.8	135
2N3843A	20–40	30	0.065	8.5	2.8	135
2N3844	35–70	30	0.065	10.2	2.8	135
2N3844A	35–70	30	0.065	8.5	2.8	135
2N3845	60–120	30	0.065	10.2	2.8	135
2N3845A	60–120	30	0.065	8.5	2.8	135
2N3854	35–70	18	0.085	16*	2.5	300
2N3854A	35–70	30	0.085	16*	2.5	300
2N3855	60–120	18	0.085	16*	2.5	350
2N3855A	60–120	30	0.085	16*	2.5	350
2N3856	100–200	18	0.085	16*	2.5	375
2N3856A	100–200	30	0.085	16*	2.5	375
2N3858	60–120	30	0.055	10*	2.5	135
2N3859	100–200	30	0.055	10*	2.5	135
2N3860	150–300	30	0.055	10*	2.5	135
2N5232	250–500	50	0.055	.....	2.5	135
2N5232A	250–500	50	0.055	5	2.5	135
2N5249	400–800	50	0.055	.....	2.5	135
2N5249A	400–800	50	0.055	5	2.5	135
2N5309	60–120§	50	0.055	.....	2.5	135
2N5310	100–300§	50	0.055	.....	2.5	135
2N5311	250–500§	50	0.055	.....	2.5	135

100 MHz TO 950 MHz EPITAXIAL

2N3662	20 min.†	12	0.6‡	4	1.2	700
2N3663	20 min.†	12	0.6‡	4	1.2	700
D16G6	20 min.#	12	0.6‡	4	1.5	500

*C_{ib}, pF. †I_C = 8 mA, V_{CE} = 10 V. ‡Maximum. §I_C = 10 μA. #I_C = 5 mA, V_{CE} = 10 V.

HIGH SPEED SWITCHES

Low storage times; epitaxial gold doped.

GE Type	h_{FE} I_C = 10 mA	V_{CEO} V	Max. $V_{CE(SAT)}$ V	P_T mW	Typical C_{ob} pF	Typical f_t MHz
2N3605	30 min.	14	0.25	360	4	350
2N3605A	30–120	15	0.25	360	6	300
2N3606	30 min.	14	0.25	360	4	350
2N3606A	30–120	15	0.25	360	6	300
2N3607	30 min.	14	0.25	360	4	350

SPACE DOES NOT PERMIT LISTING OF ALL RELATED COMPONENTS. WRITE FOR INFORMATION ON UNLISTED ITEMS.

NPN AND PNP SILICON SIGNAL TRANSISTORS

TO-98 and TO-18 (Fig. A) plastic encapsulated devices engineered to deliver excellent performance with maximum value. All signal devices can be supplied with formed leads to fit either TO-5 or TO-18 sockets. Data and pricing on request.

NPN LARGE SIGNAL AMPLIFIERS AND MEDIUM SPEED SWITCHES—EPITAXIAL (TO-98)

GE Type	h_{FE} I_C = 2 mA	V_{CEO} V	Max. $V_{CE(SAT)}$ V	P_T mW	Typical C_{obo} pF	Typical f_t MHz
2N2713	30–90	18	0.3	360	6.0	120
2N2714	75–225	18	0.3	360	6.0	120
2N3402*	75–225	25	0.3	900	6.0	120
2N3403*	180–540	25	0.3	900	6.0	120
2N3404*	75–225	50	0.3	900	6.0	120
2N3405*	180–540	50	0.3	900	6.0	120
2N3414	75–225	25	0.3	360	6.0	120
2N3415	180–540	25	0.3	360	6.0	120
2N3416	75–225	50	0.3	360	6.0	120
2N3417	180–540	50	0.3	360	6.0	120
2N4256	100–500	30†	0.25	360	4.0	135
2N4424	180–540	40	0.3	360	6.0	120
2N4425*	180–540	40	0.3	900	6.0	120
2N5418	40–120	25	0.25	360	6.0	140
2N5419	100–300	25	0.25	360	6.0	140
2N5420	250–500	25	0.25	360	6.0	140

*TO-98 in heat sink. †V_{CES} value. ‡I_C = 50 mA.

NPN DARLINGTON AMPLIFIERS (TO-98)

Monolithic Darlington amplifiers ideal for preamplifier input stages requiring high input impedances of several megohms. Available with heatsink which raises P_T to 560 mW. h_{ie} value at f = 1 kHz.

GE Type	h_{FE} I_C = 2 mA V_{CE} = 5 V	Min. BV_{CEO} V	Max. h_{ie} I_C = 2 mA V_{CE} = 5 V	P_T at 25° C mW	Max. C_{obo} pF
D16P1	2,000 min.	12	400K ohms	400	10
2N5305	2,000–20,000	25	500K ohms	400	10
2N5306	7,000–70,000	25	500K ohms	400	10
2N5306A†	7,000–70,000	25	500K ohms	400	10
2N5307	2,000–20,000	40	600K ohms	400	10
2N5308	7,000–70,000	40	600K ohms	400	10
2N5308A†	7,000–70,000	40	600K ohms	400	10

†Low noise versions.

PNP DARLINGTON AMPLIFIERS (TO-18)

GE Type	h_{FE} I_C = 2 mA V_{CE} = 5 V	V_{CEO} V	Max. $V_{CE(SAT)}$ I_C = 500 mA	P_T at 25° C mW	Max. C_{obo} pF
D34C1	2K–20K	40	1.75	500	8
D34C2	7K–70K	40	1.75	500	8
D34C3	50K	40	1.75	500	8
D34C4	2K–20K	25	1.75	500	8
D34C5	7K–70K	25	1.75	500	8
D34C6	50K	25	1.75	500	8

PNP SILICON TRANSISTORS (TO-98)

GE Type	h_{FE}	V_{CEO} V	P_T mW	$V_{CE(SAT)}$ V	Typical C_{obo} pF	Typical f_t MHz
2N5354	40–120	25	360	.25	8	340
2N5355	100–300	25	360	.25	8	340
2N5356	250–500	25	360	.25	8	340
2N5365	40–120	40	360	.25	5.5	340
2N5366	100–300	40	360	.25	5.5	340
2N5367	250–500	40	360	.25	5.5	340
D29A12	250–500	60	360	.25	5.5	340

NPN HIGH VOLTAGE APPLICATIONS (TO-98)

GE Type	h_{FE} I_C = 2 mA	V_{CEO} V	Max. $V_{CE(SAT)}$ V	P_T mW	Typical C_{obo} pF	Typical f_t MHz
2N3858A	60–120	60	0.25	360	2.5	135
2N3859A	100–200	60	0.25	360	2.5	135
2N3877	20 min.	70	1.0	360	2.5	135
2N3877A	20 min.	85	1.0	360	2.5	135
2N5174	40–600*	75	0.95	360	2.5	135
2N5175	55–160*	100	0.95	360	2.5	135
2N5176	140–300*	100	0.95	360	2.5	135

*I_C = 10 mA.

NPN HIGH VOLTAGE APPLICATIONS (TO-18)

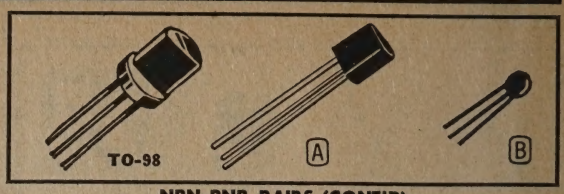
2N6218	20	300	1	500	5	50
2N6219	20	250	1	500	5	50
2N6220	20	200	1	500	5	50
2N6221	20	150	1	500	5	50

NPN-PNP COMPLEMENTARY PAIRS

P_T = 500 mW except 2N6000 Series P_T = 400 mW. Available with heatsink (exc. 2N6000 Series) which raises P_T to 1 W at 25° C Tc.

TO-98

GE Type Polarity NPN	GE Type Polarity PNP	h_{FE} I_C = 2 mA	V_{CEO} V	Max. $V_{CE(SAT)}$ V	Typical C_{obo} pF	Typical f_t MHz
D33D21	D29E1	60–200	25	0.75	9.4	150
D33D22	D29E2	150–500	25	0.75	9.4	165
D33D24	D29E4	60–120	40	0.75	9.4	120
D33D25	D29E5	100–200	40	0.75	9.4	135
D33D26	D29E6	150–300	40	0.75	9.4	150
D33D27	D29E7	250–500	40	0.75	9.4	165
D33D29	D29E9	60–120	60	0.75	9.4	115
D33D30	D29E10	100–200	60	0.75	9.4	135



NPN-PNP PAIRS (CONT'D) TO-18 (FIG. A)

GE Type Polarity NPN	GE Type Polarity PNP	h_{FE} I_C = 2 mA	V_{CEO} V	Max. $V_{CE(SAT)}$ V	Typical C_{obo} pF	Typical f_t MHz
2N5810	2N5811	60–200	25	0.75	9.0	200
2N5812	2N5813	150–500	25	0.75	9.0	200
2N5814	2N5815	60–120	40	0.75	9.0	200
2N5816	2N5817	100–200	40	0.75	9.0	200
2N5818	2N5819	150–300	40	0.75	9.0	200
2N5820	2N5821	60–120	60	0.75	9.0	200
2N5822	2N5823	100–200	60	0.75	9.0	200
2N6000	2N6001	100–300*	25	0.175†	5.0	250
2N6002	2N6003	250–500*	25	0.175†	5.0	300
2N6004	2N6005	100–300*	40	0.175†	5.0	250
2N6006	2N6007	250–500*	40	0.175†	5.0	300
2N6010	2N6011	100–300*	40	0.130‡	9.0	200
2N6012	2N6013	250–500*	40	0.130‡	9.0	250
2N6014	2N6015	100–300*	60	0.130‡	9.0	200

*I_C = 10 mA. †NPN; PNP, 0.350 V. ‡NPN; PNP, 0.300 V.

NPN AMPLIFIERS AND SWITCHES (FIG. A)

In TO-18 plastic package. Electrical replacements for hermetic transistors. P_T = 360 mW at T_A = 25° C.

HIGH SPEED SWITCHES—EPITAXIAL

V_{CEO} = 15 volts except GET3646, V_{CEO} = 20 volts.

GE Type	h_{FE} I_C = 10 mA	Max. $V_{CE(SAT)}$ V	Typical C_{obo} pF	Typical f_t MHz	Maximum t_{on} nsec	Maximum t_{off} nsec	Maximum t_s nsec
GET706	20 min.	.250	6.0	350	40	75	35
GET708	30–120	.250	5.5	350	40	75	25
GET914	30–120	.250	5.5	350	40	40	20
GET3013	30–120*	.180	4.5	400	15	16	18
GET3014	30–120*	.180	4.5	400	16	25	18
GET3646	30–120*	.200	4.5	400	18	28	18

*I_C = 30 mA.

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

GE Type	h_{FE} at I_C Min.-Max.	h_{FE} at I_C mA	V_{CEO} V	Max. $V_{CE(SAT)}$ V	Typical C_{obo} pF	Typical f_t MHz
GET929	60–120	10*	50	.125	2.5	135
GET930	100–300	10*	50	.125	2.5	135
GET2221	40–120	150	30	.300	5.6	250
GET2221A	40–120	150	40	.300	5.6	250
GET2222	100–300	150	30	.300	5.6	250
GET2222A	100–300	150	40	.300	5.6	250
GET2484	250 min.	1	60	.350	2.5	135
GET3638†	20 min.	1	25	.250	5.8	340
GET3638A†	100 min.	10	25	.250	5.8	340
2N5824	60–120	2	40	.125	1.9	150
2N5825	100–300	2	40	.125	1.9	150
2N5826	150–450	2	40	.125	1.9	150
2N5827	250–500	2	40	.125	1.9	250
2N5828	400–800	2	40	.125	1.9	250

*μA. †PNP.

SILICON PLANAR EPITAXIAL PASSIVATED

NPN MICROTAB (FIG. B)

P_T = 90 mW. C_{ob} value at f = 1 MHz.

GE Type	h_{FE} at I_C Min.-Max.	h_{FE} at I_C μA	Maximum V_{CEO} V	Maximum V_{EBO} V	Maximum V_{CBO} V	Maximum $V_{CE(SAT)}$ V	Maximum C_{ob} pF	Maximum NF dB
D26B1	20–60	10*	15	4.5	40	0.25	4	†
D26B2	40–120	10*	15	4.5	40	.25	4	‡
D26C1	30–90	10*	18	5	18	0.2	7	....
D26C2	60–180	10*	18	5	18	0.2	7	....
D26C3	140–300	10*	18	5	18	0.2	7	....
D26C4	250–500	10*	18	5	18	0.25	7	....
D26C5	400–800	10*	18	5	18	0.25	7	....
D26E1	100–300	10	45	5	45	1.00	8	3
D26E2	40–90	100	18	5	18	.25	4	6
D26E3	70–145	100	18	5	18	.25	4	5
D26E4	115–220	100	18	5	18	.25	4	4
D26E5	180–330	100	18	5	18	.25	4	3
D26E6	40–330	100	18	5	18	.25	4	6
D26G1	20 min.	3*	15	3	30	.4	3	6

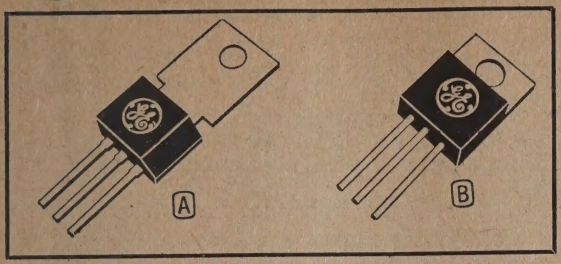
*mA. †t_{on} = 12 nsec max.; t_{off} = 15 nsec max. ‡t_{on} = 12 nsec max.; t_{off} = 18 nsec max.

PNP MICROTAB (FIG. B)

P_T = 90 mW.

GE Type	h_{FE} at I_C Min.-Max.	h_{FE} at I_C mA	Maximum V_{CEO} V	Maximum V_{EBO} V	Maximum V_{CBO} V	Maximum $V_{CE(SAT)}$ V	Maximum I_{EBO} nA
D30A1	30–90	10	−18	−4	−18	−.25	−100
D30A2	60–180	10	−18	−4	−18	−.25	−100
D30A3	140–300	10	−18	−4	−18	−.25	−100
D30A4	250–500	10	−18	−4	−18	−.25	−100
D30A5	400–800	10	−18	−4	−18	−.25	−100

Silicon Power Transistors



Power Tab (Fig. A) and Power Pac (Fig. B) plastic encapsulated devices engineered to deliver excellent performance with maximum value. Can be supplied with formed leads to fit TO-5 or TO-66 configurations. Data and pricing on request.

SILICON POWER TAB TRANSISTORS (FIG. A)

D40D/D41D, D40E/D41E, D42C/D43C are complementary; D40N and D40P applications in CRT video output, regulators, inverters. D40C, D40D, D40E, D40K, D41D, D41E, D42C, D43C applications as audio output, 3 watts to 20 watts; regulators, drivers, inverters, motor controls, lamp controls and relays.

NPN h_{FE} at V_{CE} = 5 V and I_C = 200 mA. $V_{CE(SAT)}$ at I_C = 500 mA and I_B = 0.5 mA. P_T at 25° C tab.

GE Type	h_{FE}	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	Max. $V_{CE(SAT)}$ V	C_{CBO} pF	f_t MHz	P_T W
D40C1	10K–60K	30	0.5	1.0	1.5	5	75	6.25
D40C2	40K min.	30	0.5	1.0	1.5	5	75	6.25
D40C3	90K min.	30	0.5	1.0	1.5	5	75	6.25
D40C4	10K–60K	40	0.5	1.0	1.5	5	75	6.25
D40C5	40K min.	40	0.5	1.0	1.5	5	75	6.25
D40C7	10K–60K	50	0.5	1.0	1.5	5	75	6.25
D40C8	40K min.	50	0.5	1.0	1.5	5	75	6.25

NPN h_{FE} at V_{CE} = 5 V and I_C = 200 mA. $V_{CE(SAT)}$ at I_C = 1.5 amps and I_B = 3 mA. P_T at 25° C tab.

D40K1	10K min.	30	1.5	2.5	1.5	5	75	10
D40K2	10K min.	50	1.5	2.5	1.5	5	75	10

NPN h_{FE} at V_{CE} = 10 V and I_C = 20 mA. P_T at 25° C tab.

D40N1	30–90	250	0.1	0.2	.....	3	80	6.25
D40N2	60–180	250	0.1	0.2	.....	3	80	6.25
D40N3	30–90	300	0.1	0.2	.....	3	80	6.25
D40N4	60–180	300	0.1	0.2	.....	3	80	6.25
D40N5	20 min.	375	0.1	0.2	.....	3	80	6.25

NPN h_{FE} at V_{CE} = 2 V and I_C = 100 mA. $V_{CE(SAT)}$ at I_C = 500 mA and I_B = 50 mA. P_T at 25° C tab.

D40D1	50–150	30	1.0	1.5	0.5	8	200	6.25
D40D2*	120–360	30	1.0	1.5	0.5	8	200	6.25
D40D3	290 min.	30	1.0	1.5	0.5	8	200	6.25
D40D4	50–150	45	1.0	1.5	0.5	8	200	6.25
D40D5	120–360	45	1.0	1.5	0.5	8	200	6.25
D40D7	50–150	60	1.0	1.5	1.0	8	200	6.25
D40D8	120–360	60	1.0	1.5	1.0	8	200	6.25
D40D10	50–150	75	1.0	1.5	1.0	8	200	6.25
D40D11	120–360	75	1.0	1.5	1.0	8	200	6.25
D40D13	50–150	75	1.0	1.5	1.0	8	200	6.25
D40D14	120–360	75	1.0	1.5	1.0	8	200	6.25

NPN h_{FE} at V_{CE} = 2 V and I_C = 100 mA. P_T at T_C = 25° C.

D40E1	50 min.†	30	2	.....	.....	.....	.....	8
D40E5	50 min.†	60	2	.....	.....	.....	.....	8
D40E7	50 min.†	80	2	.....	.....	.....	.....	8

NPN h_{FE} at V_{CE} = 10 V and I_C = 80 mA. $V_{CE(SAT)}$ at I_C = 100 mA and I_B = 10 mA. P_T at 25° C tab.

D40P1	40 min.*	120	0.5	1.0	1.0	6	50	6.25
D40P3	40 min.*	180	0.5	1.0	1.0	6	50	6.25
D40P5	40 min.*	225	0.5	1.0	1.0	6	50	6.25

PNP h_{FE} at V_{CE} = −2 V and I_C = −100 mA. $V_{CE(SAT)}$ at I_C = −500 mA and I_B = −50 mA. P_T at 25° C tab.

D41D1	50–150	−30	−1.0	−1.5	−0.5	10	150	6.25
D41D2	120–360	−30	−1.0	−1.5	−0.5	10	150	6.25
D41D3	290 min.	−30	−1.0	−1.5	−0.5	10	150	6.25
D41D4	50–150	−45	−1.0	−1.5	−0.5	10	150	6.25
D41D5	120–360	−45	−1.0	−1.5	−0.5	10	150	6.25
D41D7	50–150	−60	−1.0	−1.5	−1.0	10	150	6.25
D41D8	120–360	−60	−1.0	−1.5	−1.0	10	150	6.25
D41D10	50–150	−75	−1.0	−1.5	−1.0	10	150	6.25
D41D11	120–360	−75	−1.0	−1.5	−1.0	10	150	6.25
D41D13	50–150	−75	−1.0	−1.5	−1.0	10	150	6.25
D41D14	120–360	−75	−1.0	−1.5	−1.0	10	150	6.25

PNP h_{FE} at V_{CE} = −2 V and I_C = −100 mA. P_T at T_C = 25° C.

D41E1	50 min.†	−30	2	.....	.....	.....	.....	8
D41E5	50 min.†	−60	2	.....	.....	.....	.....	8
D41E7	50 min.†	−80	2	.....	.....	.....	.....	8

*20 when measured at 2 mA collector current. †10 at V_{CE} = 2 V and I_C = 1 A.

POWER TAB TRANSISTORS (CONT'D)

NPN h_{FE} at V_{CE} = 1 V and I_C = 200 mA. $V_{CE(SAT)}$ at I_C = 1 A and I_B = 50 mA. P_T at 25° C tab.

GE Type	h_{FE}§	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	Max. $V_{CE(SAT)}$ V	C_{CBO} pF	f_t MHz	P_T W
D42C1	25 min.	30	3.0	5.0	0.5	100	50	12.5
D42C2	40–120	30	3.0	5.0	0.5	100	50	12.5
D42C3†	40–120	30	3.0	5.0	0.5	100	50	12.5
D42C4	25 min.	45	3.0	5.0	0.5	100	50	12.5
D42C5	40–120	45	3.0	5.0	0.5	100	50	12.5
D42C6†	40–120	45	3.0	5.0	0.5	100	50	12.5
D42C7	25 min.	60	3.0	5.0	0.5	100	50	12.5
D42C8	40–120	60	3.0	5.0	0.5	100	50	12.5
D42C9†	40–120	60	3.0	5.0	0.5	100	50	12.5
D42C10	25 min.	80	3.0	5.0	0.5	100	50	12.5
D42C11*	40–120	80	3.0	5.0	0.5	100	50	12.5
D42C12†	40–120	80	3.0	5.0	0.5	100	50	12.5
D42C100	75 min.	30	3.0	.....	.....	.....	.....	12.5

NPN h_{FE} at V_{CE} = 10 V and I_C = 500 mA. $V_{CE(SAT)}$ at I_C = 500 mA and I_B = 50 mA. P_T at 25° C.

D42R1	30 min.	250	1.0	2.0	1.0	30	55	15
D42R2	30 min.	300	1.0	2.0	1.0	30	55	15

PNP h_{FE} at V_{CE} = −1 V and I_C = −200 mA. $V_{CE(SAT)}$ at I_C = −1 A and I_B = −50 mA. P_T at 25° C tab.

D43C1	25 min.	−30	−3.0	−5.0	−0.5	125	40	12.5
D43C2	40–120	−30	−3.0	−5.0	−0.5	125	40	12.5
D43C3†	40–120	−30	−3.0	−5.0	−0.5	125	40	12.5
D43C4	25 min.	−45	−3.0	−5.0	−0.5	125	40	12.5
D43C5	40–120	−45	−3.0	−5.0	−0.5	125	40	12.5
D43C6†	40–120	−45	−3.0	−5.0	−0.5	125	40	12.5
D43C7	25 min.	−60	−3.0	−5.0	−0.5	125	40	12.5
D43C8	40–120	−60	−3.0	−5.0	−0.5	125	40	12.5
D43C9†	40–120	−60	−3.0	−5.0	−0.5	125	40	12.5
D43C10	25 min.	−80	−3.0	−5.0	−0.5	125	40	12.5
D43C11*	40–120	−80	−3.0	−5.0	−0.5	125	40	12.5
D43C12†	40–120	−80	−3.0	−5.0	−0.5	125	40	12.5
D43C100	75 min.	−30	−3.0	.....	.....	.....	.....	12.5

*h_{FE} = 20 min. at 2 V, 1 A; all others = 10 min. †h_{FE} = 20 min. when measured at I_C = 2 A. §h_{FE} = 20 min. at 1 V, 1 A on parts 2, 5, 8, 11; h_{FE} = 10 min. at 1 V, 1 A on parts 1, 4, 7, 10. $V_{CE(SAT)}$ on parts 1, 4, 7, 10 is measured at 1 A, 100 mA.

SILICON POWER PAC TRANSISTORS (FIG. B)

D44C/D45C and D44H/D45H are complementary. Application as audio output, regulators, drivers, inverters, motor and lamp controls and relays. D44R and D44Q applications include 120 VAC line operated amplifiers; low thru high frequency inverters/converters; TV and other display tube deflection and many others.

NPN h_{FE} at V_{CE} = 1 V and I_C = 200 mA. $V_{CE(SAT)}$ at I_C = 1 A and I_B = 50 mA. P_T at 25° C tab.

GE Type	h_{FE}§	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	Max. $V_{CE(SAT)}$ V	C_{CBO} pF	f_t MHz	P_T W
D44C1	25 min.	30	4.0	6.0	0.5	100	50	30.0
D44C2	40–120	30	4.0	6.0	0.5	100	50	30.0
D44C3†	40–120	30	4.0	6.0	0.5	100	50	30.0
D44C4	25 min.	45	4.0	6.0	0.5	100	50	30.0
D44C5	40–120	45	4.0	6.0	0.5	100	50	30.0
D44C6†	40–120	45	4.0	6.0	0.5	100	50	30.0
D44C7	25 min.	60	4.0	6.0	0.5	100	50	30.0
D44C8	40–120	60	4.0	6.0	0.5	100	50	30.0
D44C9†	40–120	60	4.0	6.0	0.5	100	50	30.0
D44C10	25 min.	80	4.0	6.0	0.5	100	50	30.0
D44C11*	40–120	80	4.0	6.0	0.5	100	50	30.0
D44C12†	40–120	80	4.0	6.0	0.5	100	50	30.0

NPN h_{FE} at V_{CE} = 10 V and I_C = 2 amps. $V_{CE(SAT)}$ at I_C = 2 amps and I_B = 200 mA. P_T at 25° C tab.

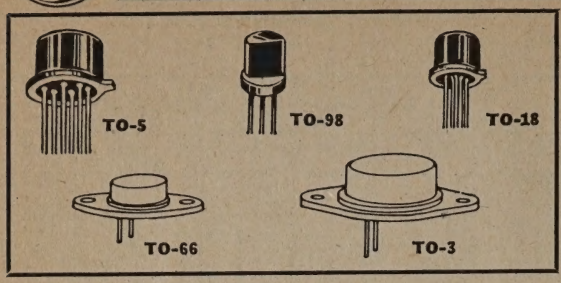
D44Q1	20 min.‡	125	4.0	8.0	1.0	40	50	31.25
D44Q3	20 min.‡	175	4.0	8.0	1.0	40	50	31.25
D44Q5	20 min.‡	225	4.0	8.0	1.0	40	50	31.25

NPN h_{FE} at V_{CE} = 10 V and I_C = 500 mA. $V_{CE(SAT)}$ at I_C = 500 mA and I_B = 50 mA. P_T at 25° C tab.

D44R1	30–90	250	1.0	2.0	1.0	30	40	31.25
D44R2	75–175	250	1.0	2.0	1.0	30	40	31.25
D44R3	30–90	300	1.0	2.0	1.0	30	40	31.25
D44R4	75–175	300	1.0	2.0	1.0	30	40	31.25
D44R5	30 min.	250	1.0	2.0	1.0•	30	40	31.25
D44R6	30 min.	300	1.0	2.0	1.0•	30	40	31.25
D44R7	150–300	250	1.0	2.0	1.0	30	40	31.25
D44R8	150–300	300	1.0	2.0	1.0	30	40	31.25

*h_{FE} = 20 min. at 2 V, 1 A; all others = 10 min. †h_{FE} = 20 min. when measured at I_C = 2 A. ‡h_{FE} = 20 min. at 10 V, 2 A. §h_{FE} = 20 min. at 1 V, 1 A on parts 2, 5, 8, 11; h_{FE} = 10 min. at 1 V, 1 A on parts 1, 4, 7, 10, 100. $V_{CE(SAT)}$ on parts 1, 4, 7, 10 is measured at 1 A, 100 mA. •$V_{CE(SAT)}$ measured at I_C = 300 mA and I_b = 30 mA.

POWER TRANSISTORS, UNIJUNCTIONS, SILICON SWITCHES AND SOLID STATE RELAYS



POWER PAC TRANSISTORS (CONT'D)

NPN h_{FE} at V_{CE} = 1 V and I_C = 2 amps. $V_{CE(SAT)}$ at I_C = 8 amps and I_B = 0.4 A (0.8 A for D44H1, 4, 7, 10). P_T at 25° C.

GE Type	h_{FE}	Min. V_{CEO} V	I_C Cont. A	I_C Peak A	Max. $V_{CE(SAT)}$ V	C_{CBO} pF	f_t MHz	P_T W
D44H1	35 min.	30	10	20	1.0	130	50	50
D44H2	60 min.	30	10	20	1.0	130	50	50
D44H4	35 min.	45	10	20	1.0	130	50	50
D44H5	60 min.	45	10	20	1.0	130	50	50
D44H7	35 min.	60	10	20	1.0	130	50	50
D44H8	60 min.	60	10	20	1.0	130	50	50
D44H10	35 min.	80	10	20	1.0	130	50	50
D44H11	60 min.	80	10	20	1.0	130	50	50

PNP h_{FE} at V_{CE} = −1 V and I_C = 200 mA. $V_{CE(SAT)}$ at I_C = −1 A and I_B = 50 mA. P_T at 25° C tab.

D45C1	25 min.	−30	−4.0	−6.0	−0.5	125	40	30.0
D45C2	40–120	−30	−4.0	−6.0	−0.5	125	40	30.0
D45C3	40–120†	−30	−4.0	−6.0	−0.5	125	40	30.0
D45C4	25 min.	−45	−4.0	−6.0	−0.5	125	40	30.0
D45C5	40–120	−45	−4.0	−6.0	−0.5	125	40	30.0
D45C6	40–120†	−45	−4.0	−6.0	−0.5	125	40	30.0
D45C7	25 min.	−60	−4.0	−6.0	−0.5	125	40	30.0
D45C8	40–120	−60	−4.0	−6.0	−0.5	125	40	30.0
D45C9	40–120†	−60	−4.0	−6.0	−0.5	125	40	30.0
D45C10	25 min.	−80	−4.0	−6.0	−0.5	125	40	30.0
D45C11	40–120	−80	−4.0	−6.0	−0.5	125	40	30.0
D45C12	40–120†	−80	−4.0	−6.0	−0.5	125	40	30.0

†h_{FE} = 20 min. at −1 V, −2 A.

PNP h_{FE} at V_{CE} = 10 V and I_C = 200 mA. $V_{CE(SAT)}$ at I_C = −8 A and I_B = −0.4 A (−0.8 A for D45H1, 4, 7, 10). P_T at 25° C.

D45H1	35 min.	−30	−10	−20	−1.0	230	40	50
D45H2	60 min.	−30	−10	−20	−1.0	230	40	50
D45H4	35 min.	−45	−10	−20	−1.0	230	40	50
D45H5	60 min.	−45	−10	−20	−1.0	230	40	50
D45H7	35 min.	−60	−10	−20	−1.0	230	40	50
D45H8	60 min.	−60	−10	−20	−1.0	230	40	50
D45H10	35 min.	−80	−10	−20	−1.0	230	40	50
D45H11	60 min.	−80	−10	−20	−1.0	230	40	50

SILICON UNIJUNCTION TRANSISTORS

"N" type silicon bar mounted between two ohmic base contacts with a "P" type emitter near base two. Three-terminal package.

GE Types Bar Structure TO-18	GE Types Bar Structure TO-5	R_{BBO} V_{BB} = 3V I_E = 0 kohms	Intrin. Stand-off Ratio†	I_V Min. mA	I_P Max. Emitter µA	I_{EO} Max. µA	I_{EO} Max. V_{B2E}‡
2N2417	2N489				12	2	60
2N2417A	2N489A*	4.7–6.8	.51–.62	8	12	2	60
2N2417B	2N489B				6	0.2	30
2N2418	2N490				12	2	60
2N2418A	2N490A*	6.2–9.1	.51–.62	8	12	2	60
2N2418B	2N490B				6	0.2	30
.....	2N490C				2	0.02	30
2N2419	2N491				12	2	60
2N2419A	2N491A*	4.7–6.8	.56–.68	8	12	2	60
2N2419B	2N491B				6	0.2	30
2N2420	2N492				12	2	60
2N2420A	2N492A*	6.2–9.1	.56–.68	8	12	2	60
2N2420B	2N492B				6	0.2	30
.....	2N492C				2	0.02	30
2N2421	2N493				12	2	60
2N2421A	2N493A*	4.7–6.8	.62–.75	8	12	2	60
2N2421B	2N493B				6	0.2	30
2N2422	2N494				12	2	60
2N2422A	2N494A*	6.2–9.1	.62–.75	8	12	2	60
2N2422B	2N494B				6	0.2	30
.....	2N494C				2	0.02	30
.....	2N1671				25	12	30
.....	2N1671A	4.7–9.1	.47–.62	8	25	12	30
.....	2N1671B				6	0.2	30
.....	2N1671C				2	0.02	30
.....	2N2160	4.0–12.0	.47–.80	8	25	12	30
2N2646*	.....	4.7–9.1	.56–.75	4	5	12	30
2N2647*	.....	4.7–9.1	.68–.82	8	2	0.2	30
D5E37*	.....	4.0–12.0	.47–.85	4	25	12	30
D5E43*	.....			6	2	1.0	30
D5E44*	.....	4.7–9.1	.68–.82	4	5	12	30
D5E45*	.....			8	2	0.5	30

*Cube structure. †V_{BB} = 10 V. ‡T_J = 25° C. *JAN type available.

PROGRAMMABLE UNIJUNCTION—PUT (TO-98)

Passivated PNPN devices with anode, anode gate and cathode terminals. Recommended for SCR trigger, pulse and timing circuits, oscillators, sensing and sweep circuits. Gate-cathode forward voltage and gate-anode reverse voltage = 40 V. Anode-cathode voltage = ±40 V.

GE Type	I_{GAO} V_S = 40 V nA	Max. Values at V_S = 10 V I_P µA	V_T V	I_V µA	$I_{F(CONT)}$ mA	P_T W
2N6027	10	2	.2–1.6	50	150	300
2N6028	10	0.15	.2–.6	25	150	300

COMPLEMENTARY UNIJUNCTION (TO-18)

D5K offers the ultimate in unijunction stability and uniformity. Ideal for low frequency oscillators and timers. Same characteristics as standard unijunction except opposite polarity current and voltages are applied to it.

GE Type	R_{BO} kohms	Intrinsic Standoff Ratio	I_V Min. mA	I_P Max. µA	I_{EO} Max. nA	V_O Min. Volts	Freq. Stab.* %
D5K1	5.5–8.2	.58–.62	1	5	10	3.5	1.0
D5K2	5–15	.58–.62	1	15	10	2.0	2.0

*Frequency stability from 25° C, −55° C to +150° C.

SILICON BILATERAL SWITCHES (SBS)

6-10 VOLT BIDIRECTIONAL PLANAR TRIGGER DIODE

V_F at 200 mA = 1.7 volts.

GE Type	JEDEC Outline	Max. $I_{F(CONT)}$ mA	T_J −55° C to °C	V_S V	Max. I_S µA	I_B at 5 V µA
2N4991	TO-98	175	+125	6–10	500	1.0
2N4992	TO-98	200	+150	7.5–9	120	0.1
2N4993	TO-18	200	+150	6–10	500	1.0

SILICON UNILATERAL SWITCHES (SUS)

6-10 VOLT PLANAR TRIGGER DIODE

V_{ACR} = 30 volts maximum. V_F at 200 mA = 1.5 volts.

GE Type	JEDEC Outline	Max. $I_{F(CONT)}$ mA	T_J −55° C to °C	V_S V	Max. I_S µA	I_B at 5 V µA
2N4983	TO-18	175	+125	6–10	500	1.0
2N4984	TO-18	200	+150	7.5–9	150	0.1
2N4985	TO-18	200	+150	7.5–8.2	300	0.01
2N4986	TO-18	175	+125	7–9	200	0.1
2N4987	TO-98	175	+125	6–10	500	1.0
2N4988	TO-98	200	+150	7.5–9	150	0.1
2N4989	TO-98	200	+150	7.5–8.2	300	0.1
2N4990	TO-98	175	+125	7–9	200	0.1

SILICON CONTROL SWITCHES (SCS)

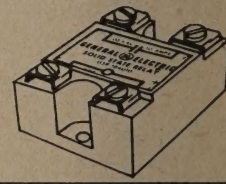
Four-terminal TO-18 package.

GE Type	Anode Blk. V	Cont. DC I_F mA	Peak Recur. I_F A*	Peak Cath. Gate Cur. mA	Dissi-pation mW	I_B at VAC V	I_B R_{GC}= 10K µA	Maximum V_{GC} I_{GC}= 20 µA V	Maximum V_{GA} I_{GA}= 1 µA V
3N81	65	200	1.0	500	400	65	20	5	65
3N82	100	200	1.0	500	400	100	20	5	100
3N83	70	50	0.1	50	200	70	20†	5	70
3N84	40	175	0.5	100	320	40	20†	5	40
3N85	100	175	0.5	100	320	100	20†	5	100
3N86	65	200	1.0	500	400	65	20	5	65

*At 100 µsec. †Measured at 125° C; all others at 150° C.

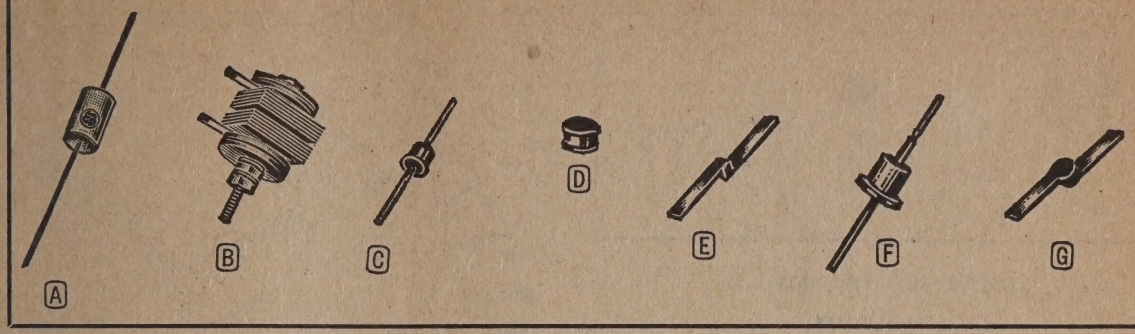
SOLID STATE RELAYS

The General Electric GSR10 Relay series are normally open solid state relays consisting of an input circuit coupled by an optical isolator into a zero voltage trigger circuit which controls 5, 10 or 25 amps. Isolation Voltage: 2500 V rms. Current values given are maximum.



AC INPUT GE Type	Output Line V rms	Output Cur., Amps	DC INPUT GE Type	Output Line V rms	Output Cur., Amps
GSR10AU5AA	120	5	GSR10AU5DA	120	5
GSR10AU10AA	120	10	GSR10AU10DA	120	10
GSR10AU25AA	120	25	GSR10AU25DA	120	25
GSR10BV5AA	240	5	GSR10BV5DA	240	5
GSR10BV10AA	240	10	GSR10BV10DA	240	10
GSR10BV25AA	240	25	GSR10BV25DA	240	25

SELENIUM THYRECTOR AND GERMANIUM DIODES, MANUALS



SELENIUM THYRECTOR DIODES

Steady state rating defined as normal input conditions. If non-sinusoidal wave input is present, peak voltage input values should be used to select model. AC leakage is based upon sinusoidal input. 6RS20SP dia., 37/64"; 6RS21SA, 1" square.

GE Type	Fig.	Steady State Rating: Input rms V	Input Peak V	Leakage mA AC	Size, Inches L
6RS20SP1B1	A	30	42.4	1.2	1 3/8
6RS20SP2B2	A	60	84.8	1.2	1 3/8
6RS20SP3B3	A	90	127.2	1.2	1 3/8
6RS20SP4B4	A	120	169.6	1.2	1 3/8
6RS20SP5B5	A	150	212.0	1.2	1 3/8
6RS20SP6B6	A	180	254.4	1.2	1 39/64
6RS20SP7B7	A	210	296.8	1.2	1 39/64
6RS20SP8B8	A	240	339.2	1.2	1 39/64
6RS20SP9B9	A	270	381.6	1.2	1 39/64
6RS20SP10B10	A	300	424.4	1.2	1 39/64
6RS20SP11B11	A	330	466.6	1.2	1 27/32
6RS20SP12B12	A	360	509.0	1.2	1 27/32
6RS20SP13B13	A	390	551.4	1.2	1 27/32
6RS20SP14B14	A	420	593.8	1.2	1 27/32
6RS20SP15B15	A	450	636.3	1.2	1 27/32
6RS20SP16B16	A	480	678.7	1.2	2 5/64
6RS20SP17B17	A	510	721.1	1.2	2 5/64
6RS20SP18B18	A	540	763.5	1.2	2 5/64
6RS20SP19B19	A	570	805.9	1.2	2 5/64
6RS20SP20B20	A	600	848.4	1.2	2 5/64
6RS21SA1D1	B	25	35	12	1 1/16
6RS21SA2D2	B	50	70	12	1 1/2
6RS21SA3D3	B	75	105	12	1 5/8
6RS21SA4D4	B	100	140	12	1 11/16
6RS21SA5D5	B	125	175	12	1 3/4
6RS21SA6D6	B	150	210	12	1 7/8
6RS21SA7D7	B	175	245	12	1 15/16
6RS21SA8D8	B	200	280	12	2
6RS21SA9D9	B	225	315	12	2 1/16
6RS21SA10D10	B	250	350	12	2 3/16
6RS21SA11D11	B	275	385	12	2 1/4
6RS21SA12D12	B	300	420	12	2 5/16
6RS21SA13D13	B	325	455	12	2 3/8
6RS21SA14D14	B	350	490	12	2 1/2
6RS21SA15D15	B	375	525	12	2 9/16
6RS21SA16D16	B	400	560	12	2 5/8
6RS21SA17D17	B	425	595	12	2 3/4
6RS21SA18D18	B	450	630	12	2 13/16
6RS21SA19D19	B	475	665	12	2 7/8
6RS21SA20D20	B	500	700	12	2 15/16

GERMANIUM BACK DIODES

BD-1 thru BD-7 (Fig. C)—Miniature axial package. Series inductance, 1.5 nH. General purpose usage as detectors, mixers and switching circuits.

BD-402 thru BD-407 (Fig. D)—Microwave pill package. Series inductance, 0.15 nH. Suggested usage as high frequency detectors, mixers and switching circuits.

Fig. C				Fig. D			
	Maximum		Min.		Maximum		Min.
GE Type	I_P mA	Total C, pF	V_{R1}* mV	GE Type	I_P mA	Total C, pF	V_{R1}* mV
BD-1	1.0	20	440	BD-402	0.5	3	420
BD-2	0.5	10	420	BD-403	0.2	1	400
BD-3	0.2	10	400	BD-404	0.1	1	380
BD-4	0.1	10	380	BD-405	0.05	1	350
BD-5	0.05	10	350	BD-406	0.02	1	330
BD-6	0.02	10	330	BD-407	0.01	1	330
BD-7	0.01	10	300				
1N4090†	0.2	1.5	430				

*$I_R = I_P$ max. †Low noise mixer, Fig. E.

GERMANIUM LOW CURRENT RECTIFIER DIODES

Max. peak 1-cycle surge = 25 amps.

JEDEC Type	Fig.	PRV Volts	Max. I_{DC} at 55° CA mA	Max. Rev. Cur., mA *	Max. Full Load Voltage Drop	Max. Oper. Temp.
1N91	F	100	75	1.35	.22 V	95° C
1N92	F	200	100	0.95	.19 V	95° C
1N93*	F	300	150	0.6	.18 V	95° C

*Full cycle avg. *JAN1N93A type available.

GERMANIUM TUNNEL DIODES

Ideal for high speed switching, 1000 times faster than computer diodes; microwave oscillators and mixers; communications—tuners, converters, detectors and amplifiers; level sensing—sampling (scopes), Schmidt triggers and counters; computer circuits—sense amplifiers, flip-flops, AND-NOR gates.

GENERAL PURPOSE (FIG. C)

Series inductance, 0.5 nH. Typical peak voltage, 65 mV except TD-9, 60 mV typical; "A" types, 65 mV ±7.

GE Type	Peak Point I_P mA	Peak Point I_P ±%	Maximum: Valley Point mA	Maximum: Cap. pF	Maximum: Series Resis. Ohms	*	Typ. f_{no} GHz
1N3712	1.0	10	0.18	10	4.0	8	2.3
1N3713*	1.0	2.5	0.14	5	4.0	8.5 ± 1	3.2
1N3714	2.2	10	0.48	25	3.0	18	2.2
1N3715*	2.2	2.5	0.31	10	3.0	19 ± 3	3.0
1N3716	4.7	10	1.04	50	2.0	40	1.8
1N3717*	4.7	2.5	0.60	25	2.0	41 ± 5	3.4
1N3718	10.0	10	2.20	90	1.5	80	1.6
1N3719*	10.0	2.5	1.40	50	1.5	85 ± 10	2.8
1N3720	22.0	10	4.80	150	1.0	180	1.6
1N3721*	22.0	2.5	3.10	100	1.0	190 ± 30	2.6
TD-9	0.5	10	10.0	5	6.0	4.0	1.3

*Typ. negative conductance -G mhos x 10^{-3}. *JAN type available.

ULTRA-HIGH SPEED SWITCHING DO-18 (FIG. E)

Subminiature epoxy package with series inductance of 1.5 nH. Also available in pill package (Fig. D) with series inductance of 0.15 nH; specify TD-271, TD-271A, TD-276A.

GE Type	Peak Point mA (±10%)	Maximum: Valley Point mA	Maximum: Cap. pF	Voltage, mV: Peak Point Typ.	Voltage, mV: Fwd $I_F = I_P$	Typical: Series Resis. Ohms	Typical: Rise Time psec
TD-251	2.2	0.31	3.0	70	500–650	5.0	430
TD-251A	2.2	0.31	1.0	110*	500–650	7.0	160
TD-252	4.7	0.60	4.0	80	500–650	3.5	320
TD-252A	4.7	0.60	1.0	120*	500–650	4.0	74
TD-253	10.0	1.40	9.0	75	500–650	1.7	350
TD-253A	10.0	1.40	5.0	80	520–650	2.0	190
TD-253B	10.0	1.40	2.0	120*	550–650	2.5	68
TD-254	22.0	3.80	18.0	90	600 typ.	1.8	185
TD-254A	22.0	3.80	4.0	120*	550–650	2.0	64
TD-255	50.0	8.50	25.0	110	625 typ.	1.4	100
TD-255A	50.0	8.50	5.0	130	640 typ.	1.5	35
TD-256	100	17.50	35.0	150	650 typ.	1.1	57
TD-256A	100	17.50	6.0	180	660 typ.	1.2	22

*Maximum.

MICROWAVE (FIG. G)

High performance microwave pill package supplied with leads when specified. Dimensions are within JEDEC DO-20 outline with leads (Fig. G). Series inductance of 0.15 nH. Package capacitance, 0.25 pF. Typical peak point current, 1.85 mA. Negative resistance, 60–80 ohms.

GE Type	Maximum: C_J pF	Maximum: R_S Ohms	Min. Resis. Cutoff	GE Type	Maximum: C_J pF	Maximum: R_S Ohms	Min. Resis. Cutoff
TD-401	3.5	3	5 GHz	TD-405	.60	6	25 GHz
TD-402	1.8	4	10 GHz	TD-406	.48	6	30 GHz
TD-403	1.0	5	15 GHz	TD-407	.37	6	35 GHz
TD-404	.75	5	20 GHz	TD-408	.30	6	40 GHz

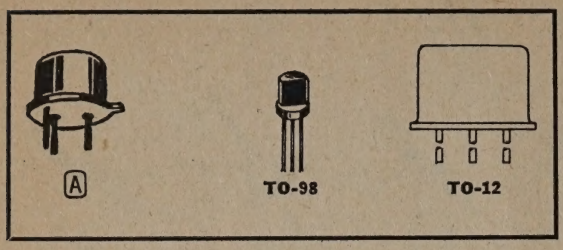
SEMICONDUCTOR MANUALS

GE SCR Manual ETR 3875A—5th edition. Over 500 pages consisting of much new information, including new chapters on triacs, regulating circuits and motor controls. Specifications on hundreds of new high-performance thyristors are detailed. Price Each.....**$3.00**

GE Transistor Manual ETR 3296—7th edition. Broad range of GE semiconductor types as well as over 2,000 registered JEDEC transistor types. Twenty chapters, 658 pages. Price Each.**$2.00**

GE Electronic Components Hobby Manual ETR 3960—2nd edition; 200 pages. Price Each **$1.50**

GE Semiconductor Data Handbook 2nd Edition 451.112—Quick reference guide for GE semiconductor specifications and applications. Price Each.....**$4.95**



GERMANIUM TRANSISTORS

PNP ALLOY

BV_{CER} at I_C = 600 μA and R_{BE} = 10K except as otherwise noted.

GE Type	Fig.	h_{FE} V_{CE} = 1 V, I_C = 20 mA	Typ. f_{hfb} MHz	Min. BV_{CER} V	Maximum I_{CBO} at V_{CB} μA	V	P_T mW
2N319	A	25–42	2.0	20	16	25	225
2N320	A	34–65	2.5	20	16	25	225
2N321	A	53–121	3.0	20	16	25	225
2N322	A	34–65	3.0	16	16	16	200
2N323	A	53–121	3.5	16	16	16	200
2N324	A	72–198	4.0	16	16	16	200
2N396A*	A	30–150†	8.0	20‡	6	20	200
2N404	A	.....	8.0	24§	5	12	150
2N404A	A	.....	8.0	35§	5	20	150
2N413	A	20–100†	6.0	18‡	5	12	150
2N414	A	30–120†	7.0	15‡	5	12	150
2N461*	A	32–199#	4.0	35•	15	45	200
2N508	A	100–200	4.5	16	7	16	200
2N508A	A	100–200	4.5	25	7	25	200
2N524	A	25–42	2.5	30	10	30	225
2N525	A	34–65	3.0	30	10	30	225
2N526*	A	53–90	3.5	30	10	30	225
2N527	A	72–121	4.0	30	10	30	225
2N1175	A	70–140	4.0	25	12	30	200
2N1175A	A	70–140	4.0	25	12	30	200
2N1303*	A	20 min.†	7.0	25§	6	25	150
2N1305*	A	40–200†	8.0	20§	6	25	150
2N1307*	A	60–300†	12.0	15§	6	25	150
2N1413	A	25–42	3.2	25	12	30	200
2N1414	A	34–65	3.6	25	12	30	200
2N1415	A	53–90	4.0	25	12	30	200
2N1924	A	34–65	3.0	40	10	45	225
2N1925	A	53–90	3.5	40	10	45	225
2N1926	A	72–121	4.0	40	10	45	225

*Not recommended for new designs. †V_{CE} = 1 V, I_C = 10 mA. ‡BV_{CEO}. §V_{RT}. #V_{CB} = 5 V, I_E = 1 mA, f = 1 kHz. •R = 1K. ^V_{RT} = 60 V. *JAN type available.

SILICON DUAL DIODES (TO-98)

P_T = 200 mW at 25° C.

TV HORIZONTAL PHASE DISCRIMINATORS

GE Type	Features	V_F at 1 mA Volt	V_R V	Typ. C_{OB} pF at 10 V
1N4951	Inherent match, static and dynamic. Common cathode.	0.85 max.	20	1.1
1N4952		0.85 max.	50	1.1

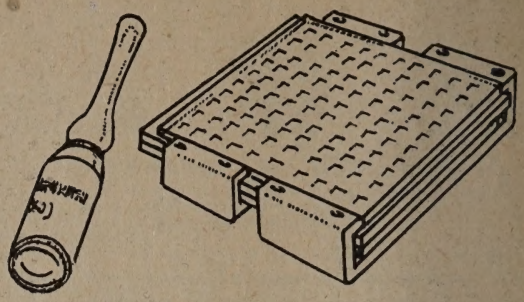
REFERENCE AMPLIFIERS (TO-12)

Designed for applications in power supplies where they can serve the dual function of a voltage reference element and an error voltage amplifier. Integrated devices comprised of zener diode and NPN transistor in a single pellet. Cancellation of temperature coefficients between the zener diode and transistor result in a transfer characteristic having a very low net TC. Circuit Characteristics: V_{CB} = 3 V, I_C = 0.5 mA (RA3 Series, 0.1 mA), I_Z = 0 (RA3 Series, 5 mA), R_B = 1 K. For further information see PIB 35.35.

GE Type	Temperature Coeff. %/° C	Temperature Range ° C	Min.-Max. V_{REF} V	Min. G_{MC} μhmo	h_{FE} V_{CE} = 3 V I_C = .5mA	I_{CBO} V_{CB} = 30 V Typ.	Max.
RA1	.02	0	6.3–7.7	3000	10–120	.004	1.0
RA1A	.005	to					
RA1B	.002	70					
RA1C	.001						
RA2	.02	−55	6.65–7.35	6000	40–120	.004	0.1
RA2A	.005	to					
RA2B	.002	+150					
RA3	.02	−55	6.65–7.35	2000	30–90*	.006†	0.1†
RA3A	.005	to					
RA3B	.002	+150					

*V_{CE} = 3 V, I_C = .1 mA. †V_{CB} = 45 V.

SEMICONDUCTOR CHIPS



Transistor and diode chips suitable for custom circuitry. Feature gold backing of 3000Å, minimum thickness, for transistor collector contact and diode cathode contact. Aluminum metalization for transistor emitter and base contacts and diode anode contact. Maximum conditions for mounting chips—425° C for a maximum of five minutes in an inert atmosphere. Chips are shipped in glass vials sealed with a nitrogen back-fill. This standard offering features optimum chip protection. Also available in "Tray Packs" in quantities of 100, 400 or 1,000.

SILICON PLANAR OXIDE-PASSIVATED DIODE CHIPS

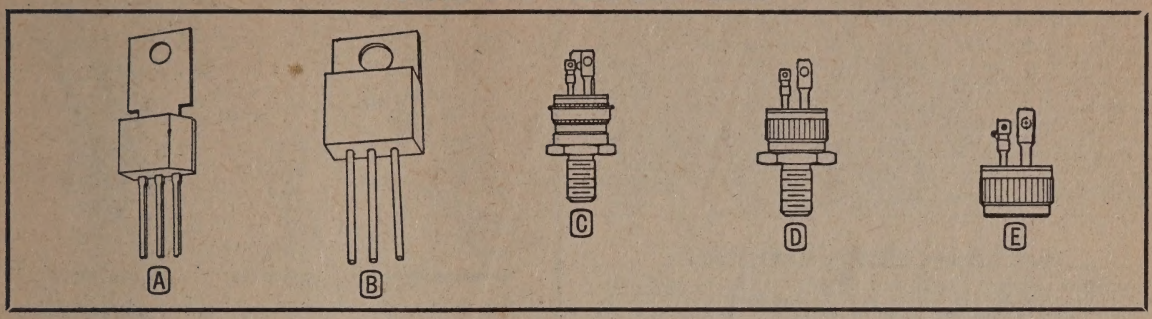
GE Type	Description
1N914A Chip 1N914B Chip	High-speed switching in computer and general purpose applications
1N3064 Chip	Very high speed switching in computer and general purpose applications
1N3600 Chip	High conductance and high-speed switching in logic, core, hammer driver circuits and general purpose applications
1N3605 Chip	High-speed switching in computer and general purpose applications; high conductance, fast recovery time, low leakage and low capacitance
1N4150 Chip	Similar to 1N3600 Chip
1N4152 Chip	Similar to 1N3605 Chip
1N4454 Chip	Similar to 1N3064 Chip
1N4532 Chip	Similar to 1N3064 Chip
1N4533 Chip	Similar to 1N3605 Chip
1N4606 Chip	Similar to 1N3600 Chip except high voltage

SILICON PLANAR PASSIVATED TRANSISTOR CHIPS

GE Type	Description
2N708 Chip	NPN for high-speed switching, also suitable as small signal device
2N918 Chip	NPN for high frequency applications
2N929 Chip	NPN for low-level amplifiers
2N930 Chip	NPN for low-level amplifiers
2N2222 Chip	NPN for high-speed switching, amplifier and core driver applications
2N2484 Chip	NPN for low-level, high gain preamplifier use in hybrid and microminiature circuits
2N2714 Chip	NPN for general purpose applications
2N2905 Chip 2N2906 Chip 2N2907 Chip	PNP for amplifiers, drivers and general purpose switching (electrically similar to JEDEC series only)
2N3414 Chip 2N3415 Chip 2N3416 Chip 2N3417 Chip	NPN for general purpose circuits, specially suited for high-level linear amplifiers or medium-speed switching circuits in control applications
2N3855A Chip 2N3856A Chip	NPN for RE, IF and converters in AM and FM radio receivers and TV video amplifiers
2N3859 Chip 2N3860 Chip	NPN for AM radio, IF and converter applications
2N3975 Chip 2N3976 Chip	NPN for medium-speed switching and large signal RF amplifiers
2N5172 Chip	NPN for general purpose applications
2N5232 Chip	NPN for low noise preamp and small signal amplifier
2N5306 Chip	NPN darlington chip for preamp input stages
M22P2 M22P3 M22P4	NPN chip for general low signal levels
M73P1	NPN darlington chip for preamp input stages and medium-speed switching control circuits

Triacs and Triac Triggers

PLASTIC AND METAL CAN TRIACS



Triac is a silicon AC switch which may be gate triggered from an OFF-state to an ON-state for either polarity of applied voltage. Triac is also an AC phase controller, that performs in a single device the function of two SCR's connected back to back to control heat, light and motor speed. Plastic triacs feature low cost and reliability. **Power Glas**™ passivated junctions, rugged and industry proven packaging and are available in various types of (TO-5, TO-66, etc.) formed leads. Metal can triacs feature **Power Glas** passivated junctions, glass to metal seal, high performance and reliability, transient voltage immunity and comprehensive specifications. Triacs are used in control circuitry in various electrical and mechanical equipments.

TRIACS IN PLASTIC POWER TAB CASE (FIG. A)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC136B	3	200	25	2	30
SC136D	3	400	25	2	30

TRIACS IN PLASTIC POWER PAC CASE (FIG. B)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC141B	6	200	50	2.5	80
SC141D	6	400	50	2.5	80
SC141E	6	500	50	2.5	80
SC141M	6	600	50	2.5	80
SC146B	10	200	50	2.5	100
SC146D	10	400	50	2.5	100
SC146E	10	500	50	2.5	100
SC146M	10	600	50	2.5	100

TRIACS IN ISOLATED POWER PAC CASE (FIG. B)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC142B	8	200	50	2.5	80
SC142D	8	400	50	2.5	80
SC142E	8	500	50	2.5	80
SC142M	8	600	50	2 5	80

TRIACS IN ISOLATED STUD CASE (FIG. C)

GE Type#	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC240B2, 3	6	200	50	2.5	80
SC240D2, 3	6	400	50	2.5	80
SC240E2, 3	6	500	50	2.5	80
SC240M2, 3	6	600	50	2.5	80
SC245B2, 3	10	200	50	2.5	100
SC245D2, 3	10	400	50	2.5	100
SC245E2, 3	10	500	50	2.5	100
SC245M2, 3	10	600	50	2.5	100
SC250B2, 3	15	200	50	2.5	100
SC250D2, 3	15	400	50	2.5	100
SC250E2, 3	15	500	50	2.5	100
SC250M2, 3	15	600	50	2.5	100
SC260B2, 3	25	200	50	2.5	250
SC260D2, 3	25	400	50	2.5	250
SC260E2, 3	25	500	50	2.5	250
SC260M2, 3	25	600	50	2.5	250

#Types shown are standard types; for zero voltage switch types, add suffix -2 to GE No.; for selected four quadrant types, add suffix -3; for 400 Hz types, add suffix -4. †At 12 volts, 25° C. ‡Surge current at 60 Hz, one cycle non-negative. §MT2+G+, MT2−G−, MT2+G−.

TRIACS IN STUD CASE (FIG. D)

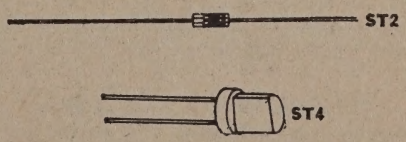
GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC240B	6	200	50	2.5	80
SC240D	6	400	50	2.5	80
SC240E	6	500	50	2.5	80
SC240M	6	600	50	2.5	80
SC245B	10	200	50	2.5	100
SC245D	10	400	50	2.5	100
SC245E	10	500	50	2.5	100
SC245M	10	600	50	2.5	100
SC250B	15	200	50	2.5	100
SC250D	15	400	50	2.5	100
SC250E	15	500	50	2.5	100
SC250M	15	600	50	2.5	100
SC260B	25	200	50	2.5	250
SC260D	25	400	50	2.5	250
SC260E	25	500	50	2.5	250
SC260M	25	600	50	2.5	250

TRIACS IN PRESS FIT CASE (FIG. E)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC241B	6	200	50	2.5	80
SC241D	6	400	50	2.5	80
SC241E	6	500	50	2.5	80
SC241M	6	600	50	2.5	80
SC246B	10	200	50	2.5	100
SC246D	10	400	50	2.5	100
SC246E	10	500	50	2.5	100
SC246M	10	600	50	2.5	100
SC251B	15	200	50	2.5	100
SC251D	15	400	50	2.5	100
SC251E	15	500	50	2.5	100
SC251M	15	600	50	2.5	100
SC261B	25	200	50	2.5	250
SC261D	25	400	50	2.5	250
SC261E	25	500	50	2.5	250
SC261M	25	600	50	2.5	250

*Types shown are standard types; for zero voltage switch types, add suffix -12 to GE Number; for selected four quadrant types, add suffix -13 to GE Number; for 400 Hz types, add suffix -14 to GE Number. †At 12 volts, 25° C. ‡Surge current at 60 Hz, one cycle non-negative. §MT2+G+, MT2+G−, MT2+G−.

TRIAC TRIGGERS



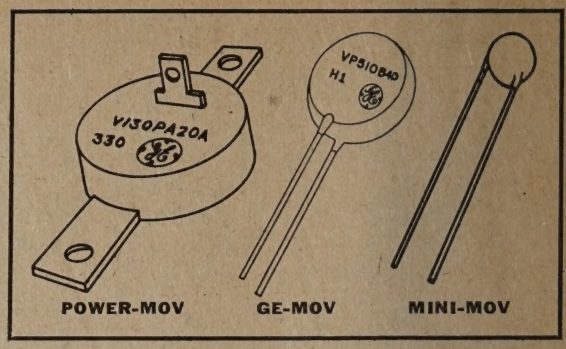
ST2 (diac) is a silicon bi-directional diode which may be used for triggering triacs or SCR's. It has three layer structure with negative resistance switching characteristics in both directions. ST4 is an asymmetrical AC trigger integrated circuit for use in triac phase control applications. This device reduces the snap-on effects that are present in conventional trigger circuits by eliminating control circuit hysteresis. This performance is possible with a single RC time constant where as a symmetrical circuit of comparable performance would require at least three more passive components.

GE Type	V_{S2} Switching Volts Min.	V_{S2} Switching Volts Max.	V_{S1} Switching Volts Min.	V_{S1} Switching Volts Max.	Max. Switching Current μA	Min. Pulse Output Volts
ST2	28*	36*	28*	36*	200	3.0
ST4	7	9	14	18	80	3.5

*For ST2, $V_{S2} = V_{S1} \pm 10\%$.

GE-MOV Metal Oxide Varistors

GE-MOV Varistors are voltage dependent, symmetrical resistors which perform in a manner similar to back-to-back zener diodes in circuit protective functions and offer advantages in performance and economics. When exposed to high energy voltage transient, varistor impedance changes from a very high standby value to a very low conducting value thus clamping the line voltage to a safe level. Dangerous energy of incoming high voltage pulse is absorbed by the GE-MOV varistor, thus protecting your voltage sensitive circuit components. Eliminates follow-on currents, extends contact life and protects circuit insulation. Applications include component and system voltage transient protection in inductive and transformer switching circuits, regenerative loads, switching magnetic amplifiers; contact arc suppression-reduction of lightning effects. If nonsinusoidal wave input is present, peak voltage input values should be used to select model.



TYPE POWER-MOV™ VARISTORS

Power Dissipation: Up to 15 watts at 70° C tab temperature. **Idle Power Dissipation:** Less than 1 watt. **Clamp Ratio:** 1.7–1.9 at 10 amps. **Current:** Can handle up to 2000 amps. **Voltage Rating:** 130–575 volts rms and 170–780 VDC. **Energy Rating:** 10–80 joules. **Response Time:** Less than 50 nsec. Meets NEMA creep and strike-terminal distances. Comes with quick disconnect terminals.

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts*	Max. Energy Joules	Max. Avg. Watts†
V130PA10A	130	184	170	10	8
V130PA20A	130	184	170	20	15
V130PA20B	130	184	170	20	15
V130PA20C	130	184	170	20	15
V150PA10A	150	212	215	10	8
V150PA20A	150	212	215	20	15
V150PA20B	150	212	215	20	15
V150PA20C	150	212	215	20	15
V250PA10A	250	354	330	10	4
V250PA20A	250	354	330	20	7
V250PA40A	250	354	330	40	13
V250PA40B	250	354	330	40	13
V250PA40C	250	354	330	40	13
V275PA10A	275	389	360	10	4
V275PA20A	275	389	360	20	7
V275PA40A	275	389	360	40	13
V275PA40B	275	389	360	40	13
V275PA40C	275	389	360	40	13
V420PA20A	420	595	550	20	5
V420PA40A	420	595	550	40	10
V420PA40B	420	595	550	40	10
V420PA40C	420	595	550	40	10
V460PA20A	460	650	625	20	5
V460PA40A	460	650	625	40	10
V460PA40B	460	650	625	40	10
V460PA40C	460	650	625	40	10
V480PA20A	480	679	625	20	3
V480PA40A	480	679	625	40	5
V480PA80A	480	679	625	80	10
V480PA80B	480	679	625	80	10
V480PA80C	480	679	625	80	10
V510PA20A	510	721	655	20	3
V510PA40A	510	721	655	40	5
V510PA80A	510	721	655	80	10
V510PA80B	510	721	655	80	10
V510PA80C	510	721	655	80	10
V550PA20A	550	778	755	20	3
V550PA40A	550	778	755	40	5
V550PA80A	550	778	755	80	9
V550PA80B	550	778	755	80	9
V550PA80C	550	778	755	80	9
V575PA20A	575	813	780	20	3
V575PA40A	575	813	780	40	5
V575PA80A	575	813	780	80	9
V575PA80B	575	813	780	80	9
V575PA80C	575	813	780	80	9

*For 1 watt idle power dissipation. †Power dissipation.

TYPE GE-MOV™ VARISTORS

Power Dissipation: Up to 1.3 watts at 85° C ambient temperature. **Idle Power Dissipation:** Less than 100 mW. **Clamp Ratio:** 1.8–2.0 at 10 amps. **Current:** Can handle up to 2000 amps. **Voltage Rating:** 95–1000 volts rms and 130–675 VDC. **Energy Rating:** 7–160 joules. **Response Time:** Less than 50 nsec.

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts	Max. Energy Joules	Max. Avg. Watts*
V95LA7A	95	134	130	7	0.45
V95LA7B	95	134	130	7	0.45
V130LA10A	130	184	175	10	0.5
V130LA20A	130	184	175	20	0.85
V130LA20B	130	184	175	20	0.85
V150LA10A	150	212	200	10	0.5
V150LA20A	150	212	200	20	0.85
V150LA20B	150	212	200	20	0.85

*Power dissipation.

TYPE GE-MOV™ (CONT'D)

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts	Max. Energy Joules	Max. Avg. Watts*
V250LA15A	250	354	330	15	0.6
V250LA20A	250	354	330	20	0.6
V250LA40A	250	354	330	40	0.9
V250LA40B	250	354	330	40	0.9
V275LA15A	275	389	369	15	0.6
V275LA20A	275	389	369	20	0.6
V275LA40A	275	389	369	40	0.9
V275LA40B	275	389	369	40	0.9
V420LB20A	420	595	560	20	0.55
V420LB40A	420	595	560	40	0.9
V420LB40B	420	595	560	40	0.9
V460LB20A	460	650	615	20	0.55
V460LB40A	460	650	615	40	0.9
V460LB40B	460	650	615	40	0.9
V480LB20A	480	679	640	20	0.55
V480LB40A	480	679	640	40	0.7
V480LB80A	480	679	640	80	1.0
V480LB80B	480	679	640	80	1.0
V510LB20A	510	721	675	20	0.55
V510LB40A	510	721	675	40	0.7
V510LB80A	510	721	675	80	1.0
V510LB80B	510	721	675	80	1.0
V550LB20A	550	778	.....	20	0.6
V550LB40A	550	778	.....	40	0.7
V550LB80A	550	778	.....	80	1.0
V550LB80B	550	778	.....	80	1.0
V575LB20A	575	813	.....	20	0.65
V575LB40A	575	813	.....	40	0.8
V575LB80A	575	813	.....	80	1.1
V575LB80B	575	813	.....	80	1.1
V1000LB80A	1000	1414	.....	80	0.9
V1000LB160A	1000	1414	.....	160	1.3
V1000LB160B	1000	1414	.....	160	1.3

*Power dissipation.

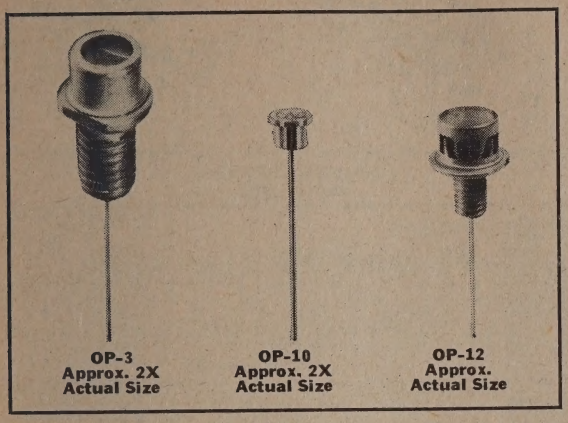
MINI-MOV™ VARISTORS

Power Dissipation: Up to .28 watts at 85° C ambient temperature. **Idle Power Dissipation:** Less than 50 mW. **Current:** Can handle up to 150 amps. **Voltage Rating:** 140–300 volts rms and 153–405 VDC. **Energy Rating:** 1–4 joules. **Response Time:** Less than 50 nsec. "Aspirin" size for PC board mounting.

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts	Max. Energy Joules	Max. Avg. Watts*
V40LA2A	40	57	53	2	0.24
V40LA2B	40	57	53	2	0.24
V60LA3A	60	85	80	3	0.24
V60LA3B	60	85	80	3	0.24
V80LA4A	80	113	110	4	0.24
V80LA4B	80	113	110	4	0.24
V130LA1	130	184	175	1	0.24
V130LA2	130	184	175	2	0.24
V150LA1	150	212	200	1	0.24
V150LA2	150	212	200	2	0.24
V250LA2	250	354	330	2	0.28
V250LA4	250	354	330	4	0.28
V275LA2	275	389	375	2	0.28
V275LA4	275	389	375	4	0.28
V300LA2	300	424	405	2	0.28
V300LA4	300	424	405	4	0.28

*Power dissipation.

RCA SOLID STATE ELECTRO-OPTIC DEVICES



OP-3 Approx. 2X Actual Size

OP-10 Approx. 2X Actual Size

OP-12 Approx. Actual Size

IR EMITTING DIODES

Non-lasing GaAs devices emitting radiant flux in the IR (940 nm). Line width, at half-power points, is 50 nm typical. Types are designed for either pulse or CW applications at room temperature.

RCA Type	Pkg.	P_O at I_F Min. mW	mA	P_{om} at I_{FM} Typ. mW	A	Net Each, Lots of 1-99	100-999	1000 Up
SG1001	OP-1	1.0	50	24	1	$7.15	$4.70	$3.60
SG1002	OP-10	1.0	50	24	1	2.75	2.00	1.65
SG1003	OP-10	1.5	50	30	1	3.95	2.90	2.35
SG1004	OP-10	2.4	50	40	1	5.00	3.65	3.05

SINGLE-DIODE LASERS

GaAs devices emitting radiant flux in the IR (904 nm). Line width, at half-power points, is 3.5 nm typical. Types are designed for pulse applications at room temperature. Forward current pulse duration is 0.2 μs max. (SG2014, SG2015, 0.1 μs).

RCA Type	Pkg.	P_{OM} at I_{FM} Min. W	A	Max. Duty Factor %	Emitting Area Mils	Net Each, Lots of 1-99	100-999	1000 Up
SG2001	OP-3	1	10	0.1	3 x	$ 28.00	$ 22.45	$ 19.65
SG2002	OP-3	2	10	0.1	0.08	44.85	33.30	24.05
SG2003	OP-3	3	25	0.04	6 x	14.85	10.85	7.75
SG2004	OP-3	5	25	0.1	0.08	17.60	12.60	10.35
SG2005	OP-3	5	20	0.1		26.75	21.15	16.90
SG2006	OP-3	7	40	0.04	9 x	11.50	9.50	7.55
SG2007	OP-3	10	40	0.1	0.08	20.30	18.30	14.90
SG2008	OP-3	10	30	0.1		16.20	11.65	9.60
SG2009	OP-3	12	75	0.04	16 x	28.30	20.65	17.20
SG2010	OP-3	15	75	0.1	0.08	45.30	41.05	37.45
SG2011	OP-3	15	60	0.1		42.25	37.45	32.60
SG2012	OP-12	20	100	0.04	24 x	49.45	45.90	42.90
SG2013	OP-12	25	100	0.04	0.08	39.80	29.00	24.15
SG2014	OP-12	40	250	0.005	55 x	39.80	29.00	24.15

STACKED-DIODE LASER

GaAs device consisting of three diode pellets series connected and vertically stacked. Emit radiant flux in the IR (904 nm). Line width, at half-power points, is 3.5 nm typical. Designed for pulse operation at room temperature. Forward current pulse duration is 0.2 μs max.

RCA Type	Pkg.	P_{OM} at I_{FM} Min. W	A	Max. Duty Factor	Net Each, Lots of 1-24	25-99	100-Up
SG3001	OP-12	25	40	0.04%	$34.80	$31.65	$28.45

CRYOGENIC LASER ARRAYS

GaAs types consisting of series-parallel connected diodes. Emit radiant flux in the IR (855 nm). Line width, at half-power points, is 15 nm typical. Designed for operation at 77° K (−196° C). Forward current pulse duration is 0.2 μs max.

RCA Type	No. of Ports	No. of Diodes Typical	Min. P_{OM} at I_{FM} = 6 A	Max. Duty Factor	Net Each
SG4001	2	184	10	3%	$2365.00
SG4002	4	368	20	3%	4515.00
SG4003	6	552	30	3%	6480.00

GENERAL ELECTRIC SEMICONDUCTORS

INTEGRATED CIRCUITS

GE Type	Description	Net Each
GEIC-2	TV/FM sound system	$4.55
GEIC-3	Color TV chroma demodulator	6.70
GEIC-4	Color TV subcarrier regenerator	4.55
GEIC-5	Color TV chroma demodulator	5.00
GEIC-6	Color TV chroma IF amplifier	4.55
GEIC-7	FM stereo multiplex decoder	5.15
GEIC-8	FM stereo multiplex decoder	5.15
GEIC-9	FM stereo multiplex decoder	4.20
GEIC-10	FM detector and limiter	3.99
GEIC-11	FM detector and limiter	4.55
GEIC-12	Description available on request	1.70

UNIVERSAL REPLACEMENT TRANSISTORS

GE Type	Net Each	GE Type	Net Each	GE Type	Net Each
GE-1	$1.20	GE-27	$ 2.18	GE-61	$1.32
GE-2	1.02	GE-28	2.15	GE-62	.81
GE-3	1.78	GE-29	2.40	GE-63	1.80
GE-4	2.94	GE-30	2.20	GE-64	.96
GE-5	1.68	GE-31MP*	4.40	GE-65	.90
GE-6	1.83	GE-32	2.79	GE-66	2.49
GE-7	1.77	GE-35	7.95	GE-67	1.80
GE-8	1.29	GE-36	10.75	GE-69	2.76
GE-9	1.26	GE-37	8.10	GE-72	4.15
GE-10	1.20	GE-38	12.00	GE-73	11.00
GE-11	1.53	GE-39	1.59	GE-74	8.10
GE-12	2.34	GE-40	2.85	GE-75	7.20
GE-13MP*	3.56	GE-43	2.49	GE-76	6.90
GE-14	3.51	GE-44	2.40	GE-80	4.35
GE-15MP*	7.02	GE-45	3.57	GE-FET-1†	2.25
GE-16	3.15	GE-50	1.29	GE-FET-2†	1.44
GE-17	1.42	GE-51	1.14	2N107	.75
GE-18	1.46	GE-52	1.02	2N170	1.02
GE-19	3.06	GE-53	1.02	2N188A	1.83
GE-20	1.10	GE-54	3.00	2N190	.84
GE-21	1.12	GE-55	3.05	2N324	.72
GE-22	1.03	GE-56	4.25	2N404	.54
GE-23	2.52	GE-57	1.95	2N508	.78
GE-24MP*	5.04	GE-58	2.20	2N2160	1.65
GE-25	7.50	GE-59	1.26	2N5308A	.75
GE-26	3.10	GE-60	1.20		

*Matched pair. †Field effect transistor.

ZENER DIODES

GEZD-3.6	$1.20	GEZD-9.1	$1.20	GEZD-20	$1.20
GEZD-5.1	1.20	GEZD-10-4	.90	GEZD-27	1.20
GEZD-5.6	1.20	GEZD-12	1.20	GEZD-33	1.20
GEZD-7.5	1.20	GEZD-15	1.20	GEZD-39	1.20
GEZD-6.2	1.20	GEZD-18	1.20	GEZD-47	1.20

VAC-U-SEL® MINIATURE DOUBLE DIODES

GE No. 6GC1 (Common Cathode), 6GD1 (Series Connected) or 6GX1 (Common Anode)—Net Each 55c

SILICON INDUSTRIAL REPLACEMENT SEMICONDUCTORS

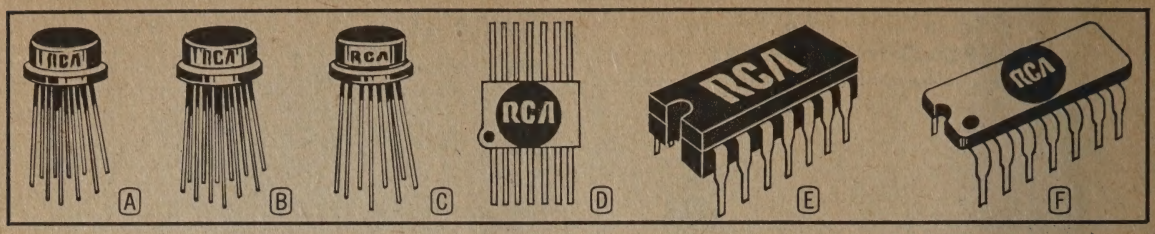
GE Type	Net Each, Lots of 1-99	100-999	GE Type	Net Each, Lots of 1-99	100-999
GEMR-1	$4.80	$3.30	GEMR-4	$3.80	$2.90
GEMR-2	6.90	5.20	GEMR-5	1.40	1.07
GEMR-3	8.60	6.50	GEMR-6	1.42	1.08

QUARTZ CRYSTALS

GE Type	Description	Net Each
GE-41	Quartz crystal	$3.36
GE-42	Quartz crystal	2.28

SELENIUM AND SILICON RECTIFIERS AND DIODES

GE Type	Description	Net Each
GE-90	Silicon diode	$0.81
GE-300	Silicon diode	.81
GE-305	Silicon diode	5.45
GE-504A	Rectifier—600 PIV	.66
GE-509	Rectifier—1000 PIV	.79
GE-510	Rectifier—1000 PIV	.81
GE-511	Silicon rectifier	.99
GE-512	Silicon rectifier	1.08
GE-513	Silicon rectifier	5.95
GECR-1	Selenium rectifier	2.25
GECR-2	Selenium rectifier	.99
GECR-3	Selenium rectifier	.86
GECR-4	Selenium rectifier	3.15
GECR-5	Selenium rectifier	3.54
GECR-6	Selenium rectifier	3.96
GECR-7	Selenium rectifier	4.56
1N34AS	Crystal diode	.33
1N60	Crystal diode	.33
1N82A	Crystal diode	.87
1N295	Crystal diode	.33
1N91	Rectifier—100 PIV	.94
6GC1	Selenium rectifiers, dual diode	.55
6GD1	Selenium rectifiers, dual diode	.55
6GX1	Selenium rectifiers, dual diode	.55
GE-BR425	Silicon rectifier	6.95
GE-BR600	Silicon rectifier	3.05



RCA integrated circuits are available in the following packages: **TO-5** 10-lead, Fig. A; 12-lead, Fig. B; 8-lead, Fig. C; **Flat Pack** 14-lead ceramic and metal, Fig. D; **Dual Inline** 14-lead plastic, Fig. E and **TO-116** dual inline 14-lead ceramic and metal, Fig. F.

High Reliability Linear Integrated Circuits are also available from RCA. Complete data and pricing on request.

LINEAR INTEGRATED CIRCUITS

OPERATIONAL AMPLIFIERS

RCA Type	Fig.	Description	Net Each, Lots of 1-99	Net Each, Lots of 100-999
CA3008	D	Wideband	$3.14	$2.28
CA3008A	D		5.10	3.72
CA3010	B		.89	.65
CA3010A	B		1.07	.78
CA3015	B		2.14	1.56
CA3015A	B		3.05	2.22
CA3016	D		4.30	3.12
CA3016A	D		6.52	4.75
CA3029	E		.81	.59
CA3029A	E		.98	.71
CA3030	E		1.82	1.32
CA3030A	E		2.72	1.98
CA3033	F	High current	4.79	3.48
CA3033A	F		8.09	5.88
CA3037	F	Wideband	2.80	2.04
CA3037A	F		4.29	3.12
CA3038	F		4.29	3.12
CA3038A	F		5.78	4.20
CA3047	E	High current	2.61	1.90
CA3047A	E		4.79	3.48
CA3060AD	F*	Triple transconductance amplifier array (OTA)	5.78	4.20
CA3060BD	F*		9.80	7.15
CA3060D	F*		8.16	5.95
CA3060E	E*		3.25	2.40
CA3078AT	C	Single operational amplifier	3.50	3.00
CA3078T	C		1.75	1.50
CA3080	C†	Single transconductance amplifier (OTA)	.97	.71
CA3080A	C†		3.22	2.34
CA3458T	C†	General purpose	1.40	1.20
CA3558T	C†		4.10	3.00
CA3741CT	C†		.80	.69
CA3741T	C†		2.50	1.95
CA3747CE	E		2.10	1.50
CA3747CT	A		2.10	1.50
CA3747E	E		2.70	1.95
CA3747T	A		5.45	3.95
CA3748CT	C†		1.30	.95
CA3748T	C†		2.00	1.50
CA6078AT	C†	Low "popcorn" noise	9.90	7.20
CA6741T	C†		5.45	3.96

HIGH-GAIN WIDEBAND AMPLIFIERS

CA3011	A	−1 MHz to 20 MHz FM IF amplifiers	$1.47	$1.07
CA3012	A		1.82	1.32
CA3020	B	DC to 9 MHz Multipurpose power	2.56	1.86
CA3020A	B	DC to 8 MHz	3.26	2.37
CA3021	B	DC to 6 MHz Low power video	3.14	2.28
CA3022	B	DC to 20 MHz	2.64	1.92
CA3023	B	DC to 40 MHz	2.56	1.86
CA3040	B	DC to 200 MHz—video	4.87	3.54

DIFFERENTIAL AMPLIFIERS

CA3000	A	DC to 30 MHz	$3.80	$2.76
CA3001	B	Video and wideband—DC to 55 MHz	5.55	4.00
CA3002	A	IF—DC to 15 MHz	3.71	2.70
CA3004	B	RF—DC to 100 MHz	3.71	2.70
CA3005	B		2.48	1.80
CA3006	B		5.80	4.20
CA3007	B	BW = 0.01 MHz at 3 dB	5.35	3.90
CA3008	D	AF—DC to 3 kHz	3.14	2.28
CA3008A	D		5.10	3.72
CA3028A	C†	Cascade—DC to 500 MHz	1.47	1.07
CA3028B	C†		2.06	1.50
CA3053	C		.81	.59

MATCHED DIODE LINEAR ARRAY

CA3019	A	Individual	$1.07	$ .78
CA3039	B	Quad plus two	1.07	.78

*16-lead. †Available in formed lead (DIL-can) TO-5 pkg.

LINEAR ARRAYS

TRANSISTOR

RCA Type	Fig.	Description	Net Each, Lots of 1-99	Net Each, Lots of 100-999
CA3018	B	Darlington connected pair plus two individual	$1.45	$1.06
CA3018A	B		2.06	1.50
CA3036	A	Dual Darlington connected	3.35	2.45
CA3045	F	Differentially connected pair plus 3 individual	4.05	3.50
CA3046	F		1.29	.92
CA3050	F	Dual Darlington connected	3.71	2.70
CA3051	E		2.72	1.98
CA3081	E‡	NPN general purpose	1.49	1.08
CA3082	E‡	NPN general purpose	1.49	1.08
CA3083	E‡	NPN general purpose	1.57	1.14
CA3084	E	PNP general purpose	2.95	2.15
CA3086	E	NPN general purpose	.81	.59
CA3093E	E‡	2 zener diodes, 1 diode and 3 transistors	2.23	1.62
CA3095E	E	Super beta	2.15	1.56
CA3096AE	E	NPN-PNP general purpose	2.64	1.92
CA3096E	E		2.05	1.50
CA3118AT	B	Darlington-connected pair plus 2 individual	2.31	1.68
CA3118T	B		1.62	1.18
CA3146AE	E	Differential-connected pair plus 2 individual	2.31	1.68
CA3146E	E		1.62	1.18
CA3183AE	E‡	NPN general purpose	2.48	1.80
CA3183E	E‡		2.05	1.50

AMPLIFIER

CA3026	B	Dual independent	$2.06	$1.50
CA3035	A	Three amplifiers	2.48	1.80
CA3035V1	A*	Three amplifiers	2.48	1.80
CA3048	E‡	Four amplifiers	4.04	2.94
CA3049	B	Dual independent	2.40	1.75
CA3054	E	Dual independent	2.06	1.50
CA3094AT	C•	Programmable power switch/amplifier	1.63	1.19
CA3094BT	C•		2.29	1.67
CA3094T	C•		.90	.75

SPECIAL FUNCTION CIRCUITS

CA3091D	F	Four quadrant multiplier	$10.70	$7.80
CA3541D	E	Sense amplifier	9.90	7.20

LINEAR POWER CONTROL CIRCUITS

VOLTAGE REGULATOR

CA3085	C•	V_{REF} = 1.6 V typ.; V_O = 1.6 V min.; V_I = 7.5 V min.	$0.98	$0.71
CA3085A	C•		2.39	1.74
CA3085B	C•		6.52	4.74

AC THYRISTOR

CA3058	E	Zero voltage switches	$5.80	$4.20
CA3059	E		3.20	2.35
CA3079	E		1.63	1.19

OPTOELECTRONIC

CA3062	B	Photo detector and power amplifier	$4.86	$3.54

LINEAR TELEVISION CIRCUITS

CA3035	A	Remote control	$2.48	$1.80
CA3035V1	A*		2.48	1.80
CA3044	A	Automatic fine tuning/detector/output amp	2.31	1.68
CA3044V1	A*		2.31	1.68
CA3064	A	Automatic fine tuning/detector/zener diode voltage regulator/DC amplifier	2.31	1.68
CA3066†	D‡	Chroma signal processor/chroma amplifier	4.29	3.12
CA3067†	D‡	Chroma demodulator	4.46	3.24
CA3068	D§	Video IF system	4.95	3.60
CA3070#	E‡	Chroma signal processor	3.47	2.52
CA3071#	E	Chroma amplifier	3.30	2.40
CA3072#	E	Chroma demodulator	3.38	2.46
CA3120E	E	Signal processor "jungle" circuit	2.23	1.49

*Formed lead. †CA3066 and CA3067 together constitute a complete chroma system. ‡16-lead. §20-lead. #CA3070, CA3071 and CA3072 together constitute a complete TV chroma system. •Available in formed lead (DIL-can) TO-5 pkg.

LINEAR FM, AM AND AUDIO CIRCUITS

Fig. E types are 16-lead.

RCA Type	Fig.	Description	Net Each, Lots of 1-99	Net Each, Lots of 100-999
CA3011	A	FM IF amplifier	$1.47	$1.07
CA3012	A		1.82	1.32
CA3013	A	Wideband amplifier/	2.15	1.56
CA3014	A	limiter/FM detector	2.48	1.80
CA3041	D	Wideband amplifier/	2.06	1.50
CA3042	D	limiter/FM detector/ driver	2.06	1.50
CA3043	B	FM IF amplifier/limiter/ FM detector/AF preamp/driver	2.81	2.04
CA3048	E	Stereo preamplifier	$4.04	$2.94
CA3052	E		3.14	2.28
CA3065	D	FM IF amplifier/limiter/	2.31	1.68
CA3065E	E	FM detector/driver/ electronic attenuator	2.31	1.68
CA3075	D	FM IF amplifier/limiter/ FM detector/AF preamp	2.31	1.68
CA3076	C	FM IF amplifier/limiter	2.64	1.90
CA3088E	E	AM IF amplifier/AM	2.31	1.68
CA3089E	E	detector/AF preamplifier	3.63	2.64

COS/MOS INTEGRATED CIRCUITS

CD4000A Series digital IC's operating temperature range −55° C to +125° C except types in plastic package, −40° C to +85° C. Noise immunity = 4.5 V typ. Threshold voltage = 1.5 V typ. N-channel; −1.5 V typ. P-channel. Recommended operating voltage range of 3 V to 15 V. DC supply voltage −0.5 V to +15 V. Available in four types of packages: Suffix **D**, ceramic dual inline; suffix **E**, plastic dual inline; suffix **K**, flat pack; suffix **T**, TO-5 style, 12 lead; all others are 14- or 16-lead.

High Reliability COS/MOS Integrated Circuits are also available from RCA. Complete data and pricing on request.

GATES

RCA Type	Description	Net Each, Lots of 1-99	Net Each, Lots of 100-999
CD4000AD	Dual 3-input NOR	$3.77	$3.10
CD4000AE	gate plus inverter	.58	.48
CD4000AK	—positive logic	3.77	3.10
CD4001AD	Quad 2-input NOR	3.99	3.30
CD4001AE	gate—positive	.58	.48
CD4001AK	logic	3.99	3.30
CD4002AD	Dual 4-input NOR	4.13	3.40
CD4002AE	gate—positive	.58	.48
CD4002AK	logic	4.13	3.40
CD4007AD	Dual complementary	3.19	2.65
CD4007AE	pair plus inverter	.58	.48
CD4007AK		3.19	2.65
CD4011AD	Quad 2-input NAND.	3.99	3.30
CD4011AE	gate—positive	.58	.48
CD4011AK	logic	3.99	3.30
CD4012AD	Dual 4-input NAND	4.18	3.45
CD4012AE	gate—positive	.58	.48
CD4012AK	logic	4.18	3.45
CD4019AD	Quad AND-OR	6.09	5.05
CD4019AE	select gate	1.45	1.21
CD4019AK		6.09	5.05
CD4023AD	Triple 3-input	4.18	3.44
CD4023AE	NAND gate—	.58	.48
CD4023AK	positive logic	4.18	3.44
CD4025AD	Triple 3-input NOR	4.18	3.44
CD4025AE	gate—positive	.58	.48
CD4025AK	logic	4.18	3.44
CD4030AD	Quad exclusive	4.58	3.79
CD4030AE	OR gate	1.24	1.04
CD4030AK		4.58	3.79
CD4041AD*	Quad true/	7.14	5.90
CD4041AE	complement buffer	3.22	2.68

HEX BUFFERS

CD4009AD*	Inverting logic-level	$6.38	$5.25
CD4009AE	converters	1.48	1.22
CD4010AD	Non-inverting logic-	6.38	5.25
CD4010AE	level converters	1.48	1.22
CD4049AD*	Hex buffer/	5.73	4.47
CD4049AE	converter	1.22	1.01
CD4050AD*		5.73	4.74
CD4050AE		1.22	1.01

DECODERS

CD4028AD*	BCD-to-decimal	$9.56	$7.92
CD4028AE		2.79	2.32

MULTIPLEXERS

CD4016AD*	Quad bilateral	$6.24	$5.15
CD4016AE	switch	1.23	1.02

LATCHES

CD4042AD*	Quad clocked D	$7.14	$5.90
CD4042AE	latch	2.57	2.14
CD4043AD*	Quad NOR R/S	7.14	5.90
CD4043AE	latch	3.22	2.68
CD4044AD*	Quad NAND R/S	7.14	5.90
CD4044AE	latch	3.22	2.68

MULTIVIBRATORS

CD4047AD*	Monostable/astable	$7.25	$6.00
CD4047AE		2.56	2.14

*Package **K** (CD4047A**K**) available at same price.

ARITHMETIC DEVICES

RCA Type	Description	Net Each, Lots of 1-99	Net Each, Lots of 100-999
CD4008AD*	Four-bit full adder	$12.25	$10.15
CD4008AE		3.06	2.55
CD4032AD*	Positive logic triple	8.35	6.91
CD4032AE	serial adder	3.27	2.72
CD4038AD*	Negative logic triple	8.35	6.91
CD4038AE	serial adder	3.27	2.72
CD4057AD	LSI four-bit array	37.70	31.20
CD4057AK		40.00	33.00

DUAL FLIP-FLOPS

CD4013AD*	D type with set-reset	$5.73	$4.75
CD4013AE		1.23	1.02
CD4027AD*	J-K master-slave	6.38	5.28
CD4027AE		1.91	1.59

STATIC SHIFT REGISTERS

CD4006AD*	18-stage	$11.02	$ 9.10
CD4006AE		2.96	2.46
CD4014AD*	8-stage	12.25	10.15
CD4014AE	synchronous	3.22	2.68
CD4015AD*	Dual 4-stage	12.25	10.15
CD4015AE		3.22	2.68
CD4021AD*	8-stage	11.82	9.75
CD4021AE	asynchronous	3.22	2.68
CD4031AD*	64-stage	15.08	12.48
CD4031AE		6.64	5.53
CD4034AD	8-stage	14.50	12.00
CD4034AK	bidirectional	14.50	12.00
CD4035AD*	4-stage w/J-K input	8.72	6.33
CD4035AE	and T/C output	3.20	2.66

COUNTERS/DIVIDERS

CD4017AD	10-decoded	$12.76	$10.60
CD4017AE	decimal outputs	3.22	2.68
CD4017AK	decade	12.76	10.60
CD4018AD	Divide-by-N	11.17	9.25
CD4018AE	fixed or program-	3.63	3.02
CD4018AK	mable counter	11.17	9.25
CD4020AD*	14-stage binary	14.50	12.00
CD4020AE	ripple carry	3.58	2.98
CD4022AD*	Octal—8-decoded	11.60	9.60
CD4022AE	outputs	3.11	2.59
CD4024AD*	7-stage binary	8.70	7.20
CD4024AE	ripple carry	2.31	1.92
CD4024AT		10.88	9.00
CD4026AD*	7-segment display	14.54	12.00
CD4026AE	outputs decade	3.10	2.51
CD4029AD*	Presettable up/	13.84	11.47
CD4029AE	down	2.99	2.39
CD4033AD*	7-segment display	14.50	12.00
CD4033AE	outputs decade	3.10	2.51
CD4045AD*	21-stage counter	8.70	7.20
CD4045AE		4.00	3.33

MEMORIES (RAMS)

CD4036AD	4 word x 8 bit binary	$13.85	$11.46
CD4036AK	addressing	13.85	11.46
CD4039AD	4 word x 8 bit direct	13.85	11.46
CD4039AK	word-line addressing	13.85	11.46

PHASE-LOCKED LOOP

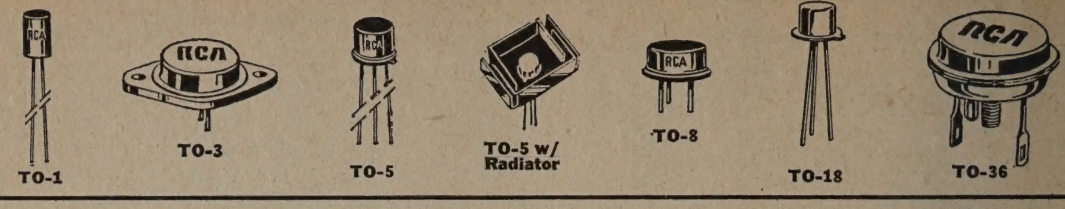
CD4046AD*	Phase-locked loop	$9.43	$7.80
CD4046AE		2.43	2.01

*Package **K** (CD4046A**K**) available at same price.

DIGITAL TTL INTEGRATED CIRCUITS

ECCSL (Emitter-Coupled Current Steered Logic) and BCD-to-7 segment decoder drivers also available. Specifications and prices available on request.

RCA SILICON AND GERMANIUM TRANSISTORS



SILICON MOS FETS (TO-72)

N-CHANNEL SINGLE GATE

RCA Type	Maximum V_{DS} V	Maximum P_T W	Typical G_{PS} dB	Typical NF at f dB	Typical NF at f MHz	Typical C_{rss} pF
3N142	20	0.1	24	4	100	0.22
3N138	35	0.15	*	.....	.....	0.4
3N139	35	0.15	14	4	200	0.2
40468A	20	0.375	24	3.5	100	0.25
40559A	20	0.375	24	.....	100	0.25
3N128	20	0.4	16	3.5	200	0.25
3N143	20	0.4	13.5	.....	100	0.25
3N152	20	0.4	17	2.5	200	0.25
3N153	20	0.4	†	.....	.....	0.25
3N154	20	0.4	20	3.5	200	0.25
40467A	20	0.4	20	3.5	200	0.25
40601	20	0.4	14	.....	.....	.....
40602	20	0.4	35	.....	.....	0.03
40603	20	0.4	26	2.5	100	0.03
40604	20	0.4	21	.....	.....	0.03

*g_{fs} = 6000 μmho typ. †g_{fs} = 10,000 μmho typ.

N-CHANNEL DUAL GATE

RCA Type	Maximum V_{DS} V	Maximum P_T W	Typical G_{PS} dB	Typical NF at f dB	Typical NF at f MHz	Typical C_{rss} pF
3N140	20	0.4	18	3.5	200	0.03
3N141	20	0.4	17	.....	200	0.03
3N159	20	0.4	18	2.5	200	0.03
40600	20	0.4	20	5	200	0.03

N-CHANNEL DUAL GATE PROTECTED

RCA Type	Maximum V_{DS} V	Maximum P_T W	Typical G_{PS} dB	Typical NF at f dB	Typical NF at f MHz	Typical C_{rss} pF
3N187	20	0.33	18	3.5	200	0.02
3N200	20	0.33	12.5	4.5	400	0.02
40673	20	0.33	18	3.5	200	0.02
40819	25	0.33	18	3.5	200	0.02
40820	20	0.33	17	4.5	200	0.02
40821	20	0.33	11	.....	200	0.02
40822	20	0.33	24	2.0	100	0.02
40823	20	0.33	18	.....	100	0.025
40841	.....	.....	32	0.46	.....	0.2

GERMANIUM PNP POWER TRANSISTORS (TO-3)

RCA Type	Maximum V_{CEO} −V	Maximum P_T W	Maximum I_C −A	h_{FE} at I_C Min.-Max.	h_{FE} at I_C −A
2N3732	100*	3	3	35 min.	0.7
2N3731	320*	5	10	15 min.	6
2N4346	320*	5	10	25 min.	6
40439	320*	5	10	15 min.	6
40440	200*	5	10	15 min.	6
2N1183†	20	7.5	3	20–60	0.4
2N1183A†	30	7.5	3	20–60	0.4
2N1183B†	40	7.5	3	20–60	0.4
2N1184†	20	7.5	3	40–120	0.4
2N1184A†	30	7.5	3	40–120	0.4
2N1184B‡	40	7.5	3	40–120	0.4
2N3730	200*	10	3	35 min.	0.7
2N2148	40	12.5	5	60–100	1
40022	32*	12.5	5	38 min.	1
40050	40	12.5	5	50 min.	1
40051	50	12.5	5	50 min.	1
40254	32*	12.5	5	30 min.	1
40462	40	12.5	5	50 min.	1
40612	25*	12.5	5	30–150	1
40623	45*	12.5	5	50–170	1
40626	55*	12.5	5	50–170	1
40421	50	12.5	5	62–175	1
2N1905	50	30	6	50–150	1
2N2869	50	30	10	50–165	1
2N2870	50	30	10	50–165	1

*V_{CER}. †In TO-8 package; JAN type also available. ‡TO-8 pkg.

SILICON POWER TRANSISTORS

Listed according to P_T and f_T range.

NPN—0.3 MHz TO 3 MHz (f_T)

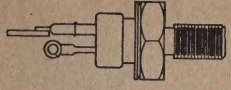
RCA Type	Pkg.	Maximum V_{CEO} V	Maximum P_T W	Maximum I_C A	h_{FE} at I_C Min.-Max.	h_{FE} at I_C A
2N1479*	TO-5	40	5	1.5	20–60	0.2
2N1480*	TO-5	55	5	1.5	20–60	0.2
2N1481*	TO-5	40	5	1.5	35–100	0.2
2N1482*	TO-5	55	5	1.5	35–100	0.2
2N1700	TO-5	40	5	1	20–80	0.1
40367	TO-5	55	5	1.5	35–100	0.2
40372	TO-66†	55	5.8	4	25–100	0.5
40373	TO-66†	140	5.8	3	20–80	0.5
40347	TO-5	40	8.75	1.5	25–100	0.45
40348	TO-5	65	8.75	1.5	30–125	0.3
40340	TO-5	140	8.75	1.5	30–125	0.15
2N5784	TO-5	65	10	3.5	20–100	1
2N5785	TO-5	50	10	3.5	20–100	1.2
2N5786	TO-5	40	10	3.5	20–100	1.6
40610	TO-5	25	10	3	20–100	1.2
40615	TO-5	30	10	3	20–100	1.2
40620	TO-5	32	10	3	20–100	1.5
2N6263	TO-66	120	20	3	20–100	0.5
2N1483‡	TO-8	40	25	3	20–60	0.75
2N1484‡	TO-8	55	25	3	20–60	0.75
2N1485‡	TO-8	40	25	3	35–100	0.75
2N1486‡	TO-8	55	25	3	35–100	0.75
2N1701	TO-8	40	25	2.5	20–80	0.3
2N3054	TO-66	55	25	4	20–100	0.5
2N3441*	TO-66	140	25	3	25–100	0.5
40368	TO-8	55	25	3	35–100	0.75
2N6260	TO-66	40	29	3	20–100	1.5
40250	TO-66	40	29	4	25–100	1.5
40310	TO-66	35	29	4	20–120	1
40312	TO-66	60§	29	4	20–120	1
40316	TO-66	60§	29	4	20–120	1
40324	TO-66	35	29	4	20–120	1
2N5293	TO-220	40	36	4	30–120	1
2N5294	TO-220	70	36	4	30–120	0.5
2N5295	TO-220	70	36	4	30–120	0.5
2N5296	TO-220	40	36	4	30–120	1
2N5297	TO-220	60	36	4	20–80	1.5
2N5298	TO-220	60	36	4	20–80	1.5
40613	TO-220	25	36	4	30–120	1
40618	TO-220	30	36	4	30–120	1
40621	TO-220	32	36	4	25–100	1.5
40622	TO-220	40	36	4	25–100	1.5
40629	TO-220	35§	36	4	20–70	1
40630	TO-220	40§	36	4	20–70	1.5
40631	TO-220	45§	36	4	20–70	2
2N6077	TO-66	300	45	7	12–70	1.2
2N6078	TO-66	275	45	7	12–70	1.2
2N6079	TO-66	375	45	7	12–70	1.2
40851	TO-66	375	45	7	12 min.	1.2
2N5490	TO-220	40	50	7	20–100	2
2N5491	TO-220	40	50	7	20–100	2
2N5492	TO-220	55	50	7	20–100	2.5
2N5493	TO-220	55	50	7	20–100	2.5
2N5494	TO-220	40	50	7	20–100	3
2N5495	TO-220	40	50	7	20–100	3
2N5496	TO-220	70	50	7	20–100	3.5
2N5497	TO-220	70	50	7	20–100	3.5
2N6261	TO-66	80	50	4	25–100	1.5
2N6264	TO-66	150	50	3	20–60	1
40624	TO-220	45	50	6	20–100	2.5
40627	TO-220	55	50	6	20–100	2.5
40632	TO-220	60§	50	6	20–70	3
40816	TO-220	45§	50	4	35–150	2
2N1487*	TO-3	40	75	6	15–45	1.5
2N1488*	TO-3	55	75	6	15–45	1.5
2N1489*	TO-3	40	75	6	25–75	1.5
2N1490*	TO-3	55	75	6	25–75	1.5
2N1702	TO-3	40	75	5	15–60	0.8
2N6098	TO-220	60	75	10	20–80	4
2N6099	TO-220	60	75	10	20–80	4
2N6100	TO-220	70	75	10	20–80	5
2N6101	TO-220	70	75	10	20–80	5
2N6102	TO-220	40	75	16	15–80	8
2N6103	TO-220	40	75	16	15–60	8
40369	TO-3	55	75	6	25–75	1.5
40884	TO-220	65	75	10	20–120	4
2N4347	TO-3	120	100	5	20–70	2
40854	TO-3	300	110	15	10 min.	10
2N3055‡	TO-3	60	115	15	20–70	4
2N6253	TO-3	45	115	15	20–70	3
40363	TO-3	70§	115	15	20–70	4
40636	TO-3	95§	115	15	20–70	4

*JAN type available. †With factory attached heat radiator. ‡JAN and JANTX types available. §V_{CER}.

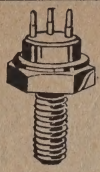
NPN—0.3 MHz to 3 MHz (f_T) continued on following page.

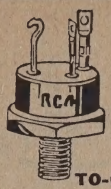
RCA SILICON POWER TRANSISTORS

TO-39

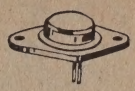

TO-48

TO-52


TO-60



TO-63


TO-66

TO-72

SILICON POWER TRANSISTORS (CONTINUED)

NPN—0.3 MHz TO 3 MHz (fT) (CONT'D)

RCA Type	Pkg.	Maximum VCEO V	Maximum PT W	Maximum IC A	hFE at IC Min.-Max.	hFE at IC A
2N3442*	TO-3	140	117	10	20–70	3
40251	TO-3	40	117	15	15–60	8
40325	TO-3	35	117	15	50–60	8
2N4348	TO-3	120	120	10	15–60	5
RCA411	TO-3	200	125	7	30–90	1
2N2015*	TO-36	50	150	10	15–60	5
2N2016*	TO-36	65	150	10	15–60	5
2N2338	TO-36	40	150	7.5	15–60	3
2N3771‡	TO-3	40	150	30	15–60	15
2N3772‡	TO-3	60	150	20	15–60	10
2N3773	TO-3	140	150	16	15–60	8
2N6254	TO-3	80	150	15	20–70	5
2N6257	TO-3	40	150	20	15–75	8
2N6262	TO-3	150	150	10	20–70	3
40411	TO-3	90§	150	30	35–100	4
2N6258	TO-3	80	250	30	20–60	15
2N6259	TO-3	150	250	16	15–60	8
40383	TO-3	100	250	16	30–150	6
2N5575	TO-3†	50	300	80	10–40	80
2N5576	TO-3†	50	300	80	10–40	60
2N5577	TO-3†	50	300	80	10–40	60
2N5578	TO-3†	70	300	60	10–40	40
2N5579	TO-3†	70	300	60	10–40	40
2N5580	TO-3†	70	300	60	10–40	40

PNP—3 MHz TO 30 MHz (fT)

RCA Type	Pkg.	VCEO V	PT W	IC A	hFE at IC Min.-Max.	hFE at IC A
2N5415	TO-5	−200	10	−1	30–150	−0.05
2N5416	TO-5	−300	10	−1	30–120	−0.05
2N5781	TO-5	−65	10	−3.5	20–100	−1
2N5782	TO-5	−50	10	−3.5	20–100	−1.2
2N5783	TO-5	−40	10	−3.5	20–100	−1.6
40609	TO-5	−25	10	−3	20–100	−1
40614	TO-5	−30	10	−3	20–100	−1.2
40619	TO-5	−32	10	−3	20–100	−1.5
2N6211	TO-66	−225	20	−2	10–100	−1
2N6212	TO-66	−300	20	−2	10–100	−1
2N6213	TO-66	−350	20	−2	10–100	−1
2N6106	TO-220	−70	40	−7	30–150	−2
2N6107	TO-220	−70	40	−7	30–150	−2
2N6108	TO-220	−50	40	−7	30–150	−2.5
2N6109	TO-220	−50	40	−7	30–150	−2.5
2N6110	TO-220	−30	40	−7	30–150	−3
2N6111	TO-220	−30	40	−7	30–150	−3
2N5954	TO-66	−75	40	−6	20–100	−2
2N5955	TO-66	−60	40	−6	20–100	−2.5
2N5956	TO-66	−40	40	−6	20–100	−3
RCA370	TO-220	−30	40	−5	25 min.	−1
RCA371	TO-220	−40	40	−5	40 min.	−1
RCA-45193	TO-220	−40	40	−7	25–100	−1.5
RCA-45194	TO-220	−60	40	−7	25–100	−1.5
RCA-45195	TO-220	−80	40	−7	20–80	−1.5
40872	TO-220	−100	40	−7	50–250	−1
40874	TO-220	−70	40	−7	30–250	−2
40876	TO-220	−50	40	−7	20–120	−3
40817	TO-220	−45§	40	−7	35–150	−2
RCA105	TO-220	−50	65	−7	25–100	−2
RCA101	TO-220	−40	75	−7	25–150	−2
RCA102	TO-220	−60	75	−7	25–150	−2
RCA103	TO-220	−60	75	−7	30–150	−1
RCA104	TO-220	−80	75	−7	30–150	−1
40878	TO-220	−65	75	−10	20–120	−4
40880	TO-220	−85	75	−10	20–120	−5
40882	TO-220	−40	75	−10	15–60	−8
2N6246	TO-3	−60	125	−15	20–100	−7
2N6247	TO-3	−80	125	−15	20–100	−6
2N6248	TO-3	−100	125	−15	20–100	−5

PNP—30 MHz TO 300 MHz (fT)

RCA Type	Pkg.	VCEO V	PT W	IC A	hFE at IC Min.-Max.	hFE at IC A
40406	TO-5	−50	1	−0.7	30–200	−0.1
40410	TO-5#	−90§	3	−0.7	50–250	−0.15
40391	TO-5#	−40	3.5	−1	50–250	−0.15
40319	TO-5	−40	5	−0.7	35–200	−0.05
40362	TO-5	−70§	5	−0.7	35–200	−0.05
40537	TO-5	−55§	5	−0.7	15–90	−0.5
40634	TO-5	−75§	5	−0.7	50–250	−0.15
2N4036	TO-5	−65	7	−1	40–140	−0.15
2N4037	TO-5	−40	7	−1	50–250	−0.15
2N4313	TO-5	−65	7	−1	50–250	−0.15

*JAN type available. †Similar to indicated pkg. ‡JAN and JANTX types available. §VCER. #With factory attached heat radiator.

PNP—30 MHz TO 300 MHz (CONT'D)

RCA Type	Pkg.	VCEO V	PT W	IC A	hFE at IC Min.-Max.	hFE at IC A
40394	TO-5	−40	7	−1	50–250	−0.15
40815	TO-5	−40	7	−1	70–250	−0.15
2N5322	TO-5	−75	10	−2	30–130	−0.5
2N5323	TO-5	−50	10	−2	40–250	−0.5
40595	TO-5	−95‡	10	−2	70–350	−0.3
2N6180	TO-5#	−75	25	−2	30–130	−0.5
2N6181	TO-5#	−50	25	−2	40–250	−0.5

NPN—3 MHz TO 30 MHz (fT)

RCA Type	Pkg.	VCEO V	PT W	IC A	hFE at IC Min.-Max.	hFE at IC A
40885	Plas.*	300	1.4	1	30–190	0.02
40886	Plas.*	350	1.4	1	30–150	0.02
40887	Plas.*	400	1.4	1	40–160	0.02
40390	TO-5†	250	3.5	1	40–160	0.02
40321	TO-5	300‡	5	0.5	25–200	0.02
40327	TO-5	300‡	5	0.5	40–250	0.02
40374	TO-66†	175	5.8	2	40 min.	0.1
2N3439§	TO-5	350	10	1	40–160	0.02
2N3440§	TO-5	250	10	1	40–160	0.02
2N4063	TO-5*	350	10	1	40–160	0.02
2N4064	TO-5*	250	10	1	40–160	0.02
40346	TO-5	175‡	10	1	25 min.	0.01
40385	TO-5	350	10	1	40–160	0.02
40412	TO-5	250	10	1	40 min.	0.03
2N6175	Plastic	300	20	1	30–190	0.02
2N6176	Plastic	350	20	1	30–150	0.02
2N6177	Plastic	400	20	1	40–160	0.02
2N3583	TO-66	175	35	2	10 min.	1
2N3584§	TO-66*	250	35	2	25–100	1
2N3585§	TO-66*	300	35	2	25–100	1
2N4240	TO-66	300	35	2	30–150	0.75
40313	TO-66	300	35	2	40–250	0.1
40318	TO-66	300	35	2	40 min.	0.02
40322	TO-66	300	35	2	40 min.	0.02
40328	TO-66	300	35	2	20 min.	1
40850	TO-66	300	35	2	25 min.	0.75
2N6288	TO-220	30	40	7	30–150	2
2N6289	TO-220	30	40	7	30–150	2
2N6290	TO-220	50	40	7	30–150	2.5
2N6291	TO-220	50	40	7	30–150	2.5
2N6292	TO-220	70	40	7	30–150	3
2N6293	TO-220	70	40	7	30–150	3
RCA520	TO-220	30	40	5	25 min.	1
RCA521	TO-220	40	40	5	40 min.	1
RCA-45190	TO-220	40	40	7	25–100	1.5
RCA-45191	TO-220	60	40	7	25–100	1.5
RCA-45192	TO-220	80	40	7	20–80	1.5
40871	TO-220	100	40	7	50–250	1
40873	TO-220	70	40	7	30–150	2
40875	TO-220	50	40	7	20–120	3
RCA205	TO-220	50	65	7	25–100	2
RCA201	TO-220	40	75	7	25–150	2
RCA202	TO-220	60	75	7	25–150	2
RCA203	TO-220	60	75	7	30–150	1
RCA204	TO-220	80	75	7	30–150	1
40877	TO-220	65	75	10	20–120	4
40879	TO-220	85	75	10	20–120	5
40881	TO-220	40	75	10	15–60	8
2N3263	Radial	90	84	25	25–75	15
2N3264	Radial	60	84	25	20–80	15
2N5239	TO-3	225	100	5	20–80	2
2N5240	TO-3	300	100	5	20–80	2
2N5838	TO-3	250	100	5	10–50	3
2N5839	TO-3	275	100	5	10–50	2
2N5840	TO-3	350	100	5	10–50	2
40852	TO-3	350	100	7	12 min.	1.2
2N5804	TO-3	225	110	8	10–100	5
2N5805	TO-3	300	110	8	10–100	5
40853	TO-3	300	110	10	10 min.	5
2N3265	TO-63	90	125	25	25–75	15
2N3266	TO-63	60	125	25	20–80	15
RCA410	TO-3	200	125	7	30–90	1
RCA413	TO-3	325	125	7	20–80	0.5
RCA423	TO-3	325	125	7	30–90	1
RCA431	TO-3	325	125	7	15–35	2.5
2N6249	TO-3	200	175	10	20–100	3
2N6250	TO-3	275	175	10	20–100	3
2N6251	TO-3	350	175	10	20–100	3

*With factory attached heat clip. †With factory attached heat radiator. ‡VCER. §JAN and JANTX types available. #Plastic.

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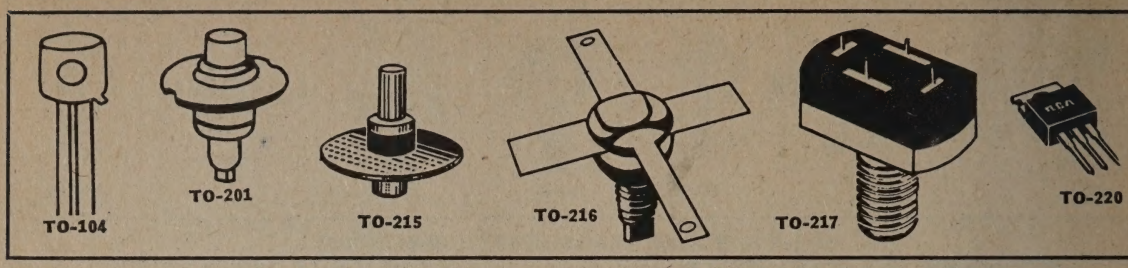
RCA SILICON POWER AND RF POWER TRANSISTORS



SILICON POWER TRANSISTORS (CONTINUED)

NPN—30 MHz TO 300 MHz (fT)

RCA Type	Pkg.	Maximum VCEO V	Maximum PT W	Maximum IC A	hFE at IC Min.-Max.	hFE at IC A
40407	TO-5	50	1	0.7	40–200	0.001
40408	TO-5	90	1	0.7	40–200	0.001
2N718A	TO-18	32	1.8	1	40–120	0.15
2N720A	TO-18	80	1.8	1	40–120	0.15
2N2895	TO-18	85	1.8	1	40–120	0.15
2N2896	TO-18	90	1.8	1	60–200	0.15
2N2897	TO-18	45	1.8	1	50–200	0.15
40084	TO-18	40	1.8	1	50–250	0.15
2N697	TO-5	40*	2	0.5	40–120	0.15
2N699	TO-5	80*	2	0.5	40–120	0.15
2N1613	TO-5	50*	3	1	40–120	0.15
2N1711	TO-5	50*	3	1	100–300	0.15
2N1893	TO-5	80†	3	0.5	40–120	0.15
40409	TO-5‡	90*	3	0.7	50–250	0.15
40389	TO-5‡	40	3.5	0.7	50–200	0.15
40625	TO-5‡	45	3.5	1	100–300	0.15
40628	TO-5‡	55	3.5	1	100–300	0.15
2N2102	TO-5	65	5	1	40–200	0.15
2N2270	TO-5	45	5	1	50–200	0.15
2N2405	TO-5	90	5	1	60–200	0.15
2N3053	TO-5	40	5	0.7	50–200	0.15
2N5189	TO-39§	35	5	2	15 min.	1
2N5262	TO-39§	50	5	2	25 min.	1
40309	TO-5	18	5	0.7	70–350	0.05
40311	TO-5	30	5	0.7	70–350	0.05
40314	TO-5	40	5	0.7	70–350	0.05
40315	TO-5	35	5	0.7	70–350	0.05
40317	TO-5	40	5	0.7	40–200	0.01
40320	TO-5	40	5	0.7	40–200	0.01
40323	TO-5	18	5	0.7	70–350	0.05
40326	TO-5	40	5	0.7	40–200	0.01
40360	TO-5	70	5	0.7	40–200	0.01
40361	TO-5	70*	5	0.7	70–350	0.05
40366	TO-5	65	5	1	40–120	0.15
40539	TO-5	65*	5	0.7	15–90	0.5
40635	TO-5	75*	5	0.7	50–250	0.15
40611	TO-5	25	5	0.7	70–500	0.15
40616	TO-5	32	5	0.7	25–100	1.5
40814	TO-5	32	5	0.7	50–250	0.01
40375	TO-66‡	50	5.8	7	50–200	0.5
40392	TO-5§	40	7	0.7	50–200	0.15
40544	TO-5§	50*	7	0.7	35–200	0.05
2N3262	TO-5	80	8.75	1.5	40 min.	0.5
2N5320	TO-5	75	10	2	30–130	0.5
2N5321	TO-5	50	10	2	40–250	0.5
40594	TO-5	95*	10	2	70–350	0.3
2N6178	TO-5•	75	25	−2	30–130	0.5
2N6179	TO-5•	50	25	−2	40–250	0.5
2N3878	TO-66	50	35	7	50–200	0.5
2N3879	TO-66	75	35	7	20–80	4
2N5202	TO-66	75*	35	4	10–100	4
40364	TO-66	60*	35	7	35–275	0.5
2N5038*	TO-3	90	140	20	50–200	2
2N5039*	TO-3	75	140	20	30–150	2
2N5671	TO-3	90	140	30	20–100	15
2N5672	TO-3	120	140	30	20–100	15
2N6032	TO-3#	90	140	50	10–50	50
2N6033	TO-3#	120	140	40	10–50	40
2N6354	TO-3	120	140	10	20–150	5.0

*VCER. †VCES. ‡With factory attached heat radiator. §With flange. #Similar to package indicated. *JAN and JANTX types available. •Plastic case, PNP type.

NPN SILICON RF POWER TRANSISTORS

Power output and gain ratings given are minimum.

SSB (2-30 MHz) AND MILITARY (30-76 MHz)

RCA Type	Pkg.	Operating Frequency MHz	Power Output W	Collector Supply Voltage	Power Gain dB
40082	TO-39	30	2.5 (PEP)	12.5	10
2N5992	TO-216	30	15 (PEP)	12.5	10
40936	TO-60	30	20 (PEP)	28	13
2N5070	TO-60	30	25 (PEP)	28	13
2N6093	TO-217	30	75 (PEP)	28	13
2N3118	TO-5	50	1	28	.....
2N3119	TO-5	50	1	28	.....
2N2631	TO-39	50	7.5	28	.....
2N2876	TO-60	50	10	28	.....
2N3229	TO-60	50	15	50	.....
2N1491	TO-5	70	0.01	20	13
2N1492	TO-5	70	0.1	30	13
2N1493	TO-5	70	0.5	50	10
2N5071	TO-60	76	24	24	9
2N3553	TO-39	175	2.5	28	.....
2N3632	TO-60	175	13.5	28	.....
40665	TO-60	175	13.5	28	.....
2N5090	TO-60	400	1.2	28	7.8
2N3375	TO-60	400	2.5	28	.....
40666	TO-60	400	3	28	.....
2N4440	TO-60	400	5	28	.....
2N3733	TO-60	400	10	28	.....
2N4012	TO-60	1000	2.5*	28	4*

CITIZENS BAND (27 MHz)

40080	TO-5	27	0.1	12	.....
40081	TO-5	27	0.4	12	.....
40082	TO-39	27	3	12	.....
40446	TO-39†	27	3	12	.....
40581	TO-39	27	3.5	12	.....
40582	TO-39†	27	3.5	12	.....

MOBILE RADIO (50-88 MHz)

2N5992	TO-216	88	7	12.5	10
2N4932	TO-60	88	12	13.5	5.3
2N5993	TO-216	88	18	12.5	10
2N4933	TO-60	88	20	24	7.5
40340	TO-60	50	25	13.5	7
40341	TO-60	50	30	24	10

*As tripler. †With factory attached flange.

MOBILE RADIO (450-470 MHz)

RCA Type	Pkg.	Operating Frequency MHz	Power Output W	Collector Supply Voltage	Power Gain dB
40964	TO-39	470	0.4	12	6
40965	TO-39	470	0.5	12	7
2N5914	TO-216	470	2	12.5	7
40934	HF-31	470	2	12.5	7
2N5915	TO-216	470	6	12.5	4.8
40935	HF-31	470	6	12.5	4.8
40893	HF-36	470	15	12.5	5.2

AIRCRAFT RADIO (108-156 MHz)

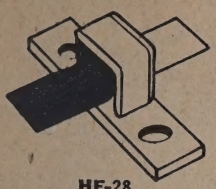
2N5994	TO-216	118	15	12.5	7
40290	TO-39	136	2	12.5	6
40291	TO-60	136	2	12.5	6
40292	TO-60	136	6	12.5	4.8
2N5102	TO-60	136	15	24	4

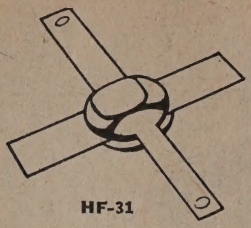
MARINE RADIO (108-156 MHz)

RCA Type	Pkg.	Operating Frequency MHz	Power Output W	Collector Supply Voltage	Power Gain dB
40953	TO-39	156	2	12.5	13
40954	HF-44	156	10	12.5	7
40955	HF-44	156	25	12.5	4.5

UHF MILITARY (225-400 MHz)

2N3866	TO-39	400	1	28	10
40941	HF-31	400	1	28	10
2N5916	TO-216	400	2	28	10
2N5917	HF-31	400	2	28	10
40940	TO-216	400	5	28	5.2
2N5918	TO-216	400	10	28	8
2N5016	TO-60	400	15	28	5
2N5919	TO-216	400	16	28	6
2N5919A	TO-216	400	16	28	6
2N6104	HF-32	400	30	28	5
2N6105	TO-216	400	30	28	5


HF-28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ISO-S

PF

Radial

Stud

NPN SILICON TRANSISTORS (CONTINUED)

RF POWER MICROWAVE

Collector supply voltage 28 V except as otherwise noted.

RCA Type	Pkg.	Operating Frequency GHz	Min. Power Output W	Min. Power Gain dB	Collector Efficiency %
2N5108	TO-39	1	1	5	35
40836	TO-215	2	0.5	.....	20*
2N5470	TO-215	2	1	5	30
40837	TO-215	2	1.25	.....	20
2N5920	TO-215	2	2	10	40
2N6265	HF-28	2	2	8.2	33
40909	TO-201	2	2	.....	20†
2N5921	TO-201	2	5	7	40
2N6266	HF-28	2	5	7	33
2N6267	HF-28	2	10	7	35
2N6268	HF-28	2.3	2	7	33‡
40898	TO-215	2.3	2	7	35‡
40899	TO-201	2.3	6	6	35‡
2N6269	HF-28	2.3	6.5	5	32‡

*Collector supply voltage: 21 V; †25 V; ‡22 V.

RF POWER HIGH-SPEED SWITCHING

RCA Type	Pkg.	Switching Time t_{on} nsec	Switching Time t_{off} nsec	Collector Supply V	Min. f_T MHz
2N3119	TO-5	40	700	28	250
2N3262	TO-39	40	750	28	150

HIGH-RELIABILITY RF POWER

RCA Type	Pkg.	High-Reliability Version of	RCA Type	Pkg.	High-Reliability Version of
40279	TO-60	2N3375	40307	TO-60	2N3632
40294	TO-72	2N2857	40577	TO-5	2N3118
40305	TO-39	2N3553	40578	TO-39	2N3866
40306	TO-60	2N3375	40605	TO-39	2N3553

RF SMALL-SIGNAL, LOW-NOISE AND CATV/MATV

Power gain rating is minimum.

RCA Type	Pkg.	Operating Frequency MHz	NF dB	V_{CE} V	Power Gain dB
2N918	TO-72	60	6	6	13
2N3478	TO-72	200	4.5	6	12
2N3600	TO-72	200	4.5	15	17
2N5109	TO-39	200	3	15	11
2N5179	TO-72	200	4.5	6	15
40608	TO-39	200	3	15	11
40894	TO-72	200	3	12	15
40895	TO-72	200	.....	12	15
40896	TO-72	200	.....	12	15
40897	TO-72	200	.....	12	18
2N2857	TO-72	450	4.5	6	12.5
2N3839	TO-72	450	3.9	6	12.5
40915	TO-72	450	2.5	10	11

CHIPS

Chips, also known as pellets or dies, represent the electronic portion of the transistor.

NPN SILICON POWER CHIPS

RCA Chip No.	RCA Family Transistor	Min. V_{CEO} V	h_{FE} at I_C Min.	h_{FE} at I_C A
CH3439	2N3439	325	30	0.02
CH3440	2N3440	250	30	0.02
CH3053	2N3053	30	50	0.25
CH2270	2N2270	45	50	0.25
CH2102	2N2102	60	50	0.25
CH2405	2N2405	90	50	0.25
CH5321	2N5321	55	30	0.25
CH5320	2N5320	80	30	0.25

PNP SILICON POWER CHIPS

CH4037	2N4037	−40	35	−0.175
CH4036	2N4036	−65	35	−0.175
CH5323	2N5323	−55	30	−0.25
CH5322	2N5322	−80	30	−0.25

THYRISTORS—SILICON TRIACS

Low voltage operation 50 and 60 Hz; V_{DROM} = 100 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	Max. $I_{T(rms)}$ at T_C °C
40531	TO-5*	1.6	25
40767	TO-5*	1.6	25
40534	TO-5*	1.9	25
40684	TO-5*	1.9	25
2N5754	TO-5	2.5	70
40525	TO-5	2.5	60
40528	TO-5	2.5	70
40693	TO-5*	2.5	70
40696	TO-5	2.5	70
40766	TO-5	2.5	60
40900	TO-220	8	75

Line operation 120 V, 50 and 60 Hz; V_{DROM} = 200 V.

40532	TO-5*	1.6	25
40761	TO-5*	1.6	25
40535	TO-5*	1.9	25
40685	TO-5*	1.9	25
40509	TO-5*	2.2	25
40511†	TO-5*	2.2	75
40731	TO-5*	2.3	75
2N5755	TO-5	2.5	70
40526	TO-5	2.5	60
40529	TO-5	2.5	70
40691	TO-5	2.5	60
40694	TO-5*	2.5	70
40697	TO-5	2.5	70
40502	TO-66	3.3	25
40733	TO-5‡	4.2	75
40429	TO-66	6	75
40431†	TO-5	6	75
40485	TO-5	6	75

Line operation 120 V (Cont'd)

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	Max. $I_{T(rms)}$ at T_C °C
40838	TO-5*	6	60
40725	TO-5	6	75
40727	TO-66	6	75
40729	TO-66*	6	75
40901	TO-220	8	75
40668	TO-220	8	80
40721	TO-220	8	80
2N5567	PF	10	85
2N5569	Stud	10	85
40717	PF	10	85
40719	Stud	10	85
40799	ISO-S	10	85
2N5571	PF	15	80
2N5573	Stud	15	80
40576	TO-66	15	70
40711	PF	15	80
40713	Stud	15	80
40715	TO-66	15	70
40802	ISO-S	15	75
40660	PF	30	65
40662	Stud	30	60
40705	PF	30	65
40707	Stud	30	60
40805	ISO-S	30	55
2N5441	PF	40	70
2N5444	Stud	40	65
40688	ISO-S	40	60
40699	PF	40	70
40702	Stud	40	65
40916	PF	80	75
40919	Stud	80	65
40922	ISO-S	80	55

Line operation 240 V, 50 and 60 Hz; V_{DROM} = 400 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	Max. $I_{T(rms)}$ at T_C °C
40533	TO-5*	1.6	25
40762	TO-5*	1.6	25
40536	TO-5*	1.9	25
40686	TO-5*	1.9	25
40510	TO-5*	2.2	25
40512†	TO-5*	2.2	25
40732	TO-5*	2.3	75
2N5756	TO-5	2.5	70
40527	TO-5	2.5	60
40530	TO-5	2.5	70
40692	TO-5	2.5	60
40695	TO-5*	2.5	70
40698	TO-5	2.5	70
40503	TO-66	3.3	25
40734	TO-5‡	4.2	75
40430	TO-66	6	75
40432†	TO-5	6	75
40486	TO-5	6	75
40639	TO-5*	6	60
40664	TO-5	6	75
40667	TO-5	6	75
40723	TO-5	6	75
40724	TO-5*	6	75
40726	TO-5	6	75
40728	TO-66	6	75
40730	TO-66*	6	75
40842	TO-220	6	80
40902	TO-220	8	75
40669	TO-220	8	80
40722	TO-220	8	80
2N5568	PF	10	85
2N5570	Stud	10	85

Line operation 240 V (Cont'd)

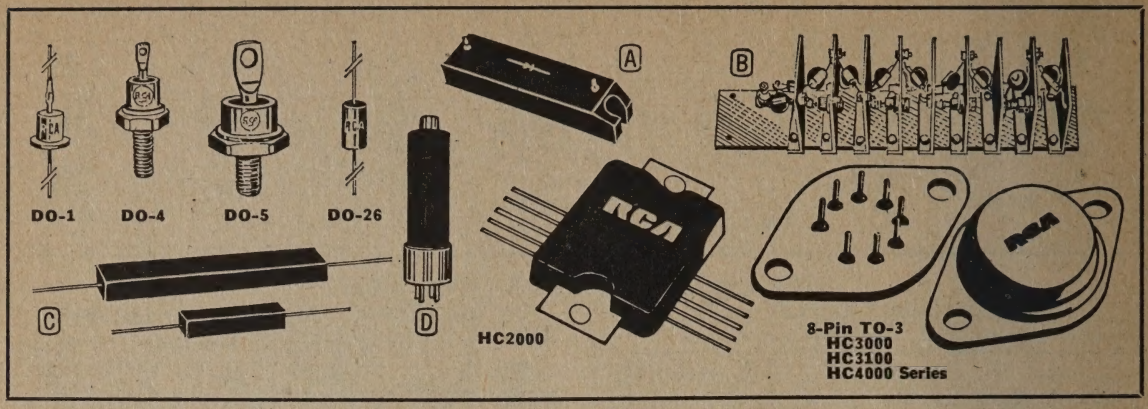
RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	Max. $I_{T(rms)}$ at T_C °C
40718	PF	10	85
40720	Stud	10	85
40800	ISO-S	10	85
2N5572	PF	15	80
2N5574	Stud	15	80
40576	TO-66	15	70
40712	PF	15	80
40714	Stud	15	80
40716	TO-66	15	70
40803	ISO-S	15	75
40661	PF	30	65
40663	Stud	30	60
40706	PF	30	65
40708	Stud	30	60
40806	ISO-S	30	55
2N5542	PF	40	70
2N5545	Stud	40	65
40689	ISO-S	40	60
40700	PF	40	70
40703	Stud	40	65
40917	PF	80	75
40920	Stud	80	65
40923	ISO-S	80	55

High voltage operation 50 and 60 Hz; V_{DROM} = 600 V.

40687	TO-5*	1.9	25
2N5757	TO-5	2.5	70
40795	PF	10	85
40796	Stud	10	85
40801	ISO-S	10	85

*With factory attached heat radiator. †Integral trigger. ‡With factory attached heat spreader.

SEE LAST PAGES OF LISTING FOR SEMICONDUCTOR PRICING



THYRISTORS—SILICON TRIACS (CONTINUED)

See preceding page for beginning of Thyristor listing.

High voltage operation 50 and 60 Hz; V_{DROM} = 600 V (Continued).

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40797	PF	15	80
40798	Stud	15	80
40804	ISO-S	15	75
40671	PF	30	65
40672	Stud	30	60
40709	PF	30	65
40710	Stud	30	60
40807	ISO-S	30	55

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
2N5443	PF	40	70
2N5446	Stud	40	65
40690	ISO-S	40	60
40701	PF	40	70
40704	Stud	40	65
40918	PF	80	75
40921	Stud	80	65
40924	ISO-S	80	55

*Similar to indicated package.

Service, 400 Hz; V_{DROM} = 200 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40769	TO-5	0.5	90
40771	TO-5	0.5	90
40773	TO-5*	2.5	90
40775	PF	6	90
40777	Stud	6	90
40779	PF	10	85
40781	Stud	10	85
40783	PF	15	80
40785	Stud	15	80
40787	PF	25	85
40789	Stud	25	80
40791	PF	40	70
40793	Stud	40	65

Service, 400 Hz; V_{DROM} = 400 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40770	TO-5	0.5	90
40772	TO-5	0.5	90
40774	TO-5*	2.5	90
40776	PF	6	90
40778	Stud	6	90
40780	PF	10	85
40782	Stud	10	85
40784	PF	15	80
40786	Stud	15	80
40788	PF	25	85
40790	Stud	25	80
40792	PF	40	70
40794	Stud	40	65

THYRISTORS—SILICON CONTROLLED RECTIFIERS (SCRs)

Low voltage operation 50 and 60 Hz; V_{DROM} = 25 V to 150 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40810	TO-5	2.5	75
RCA106A	TO-220	4	85
RCA106F	TO-220	4	85
RCA106Q	TO-220	4	85
RCA106Y	TO-220	4	85
RCA107A	TO-220	4	85
RCA107F	TO-220	4	85
RCA107Q	TO-220	4	85
RCA107Y	TO-220	4	85
40942	TO-8	4.5	75
40867	TO-220	8	80
40737	PF	10	85
40741	Stud	10	85
40745	ISO-S	10	85
2N3668	TO-3	12.5	80
2N1842A	TO-48	16	80
2N1843A	TO-48	16	80
2N1844A	TO-48	16	80
2N1845A	TO-48	16	80
40749	PF	20	75
40753	Stud	20	75
40757	ISO-S	20	75
2N681	TO-48	25	65
2N682	TO-48	25	65
2N683	TO-48	25	65
2N684	TO-48	25	65
2N3650	TO-48	35	40
2N3870	PF	35	65
2N3896	Stud	35	65
40680	ISO-S	35	60

Operation 120 V line, 50 and 60 Hz; V_{DROM} = 200 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40504	TO-66*	1.7	25
2N3528	TO-8	2	25
40507	TO-5†	2	25

Operation 120 V line (Cont'd)

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40811	TO-5	2.5	75
40658	TO-5*	3.3	25
RCA106B	TO-220	4	85
RCA106C	TO-220	4	85
RCA107B	TO-220	4	85
RCA107C	TO-220	4	85
40943	TO-8	4.5	75
2N3228	TO-66	5	75
40553	TO-66	5	60
40378	TO-5†	7	65
40654	TO-5†	7	60
40656	TO-5‡	7	50
40868	TO-220	8	80
40738	PF	10	85
40742	Stud	10	85
40746	ISO-S	10	85
2N3669	TO-3	12.5	80
2N1846A	TO-48	16	80
40750	PF	20	75
40754	Stud	20	75
40758	ISO-S	20	75
2N685	TO-48	25	65
2N3651	TO-48	35	40
2N3871	PF	35	65
2N3897	Stud	35	65
40681	ISO-S	35	60

Operation 240 V line, 50 and 60 Hz; V_{DROM} = 400 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40505	TO-66*	1.7	25
2N3529	TO-8	2	25
40508	TO-5†	2	25
40812	TO-5	2.5	75

Operation 240 V line (Cont'd)

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40659	TO-5*	3.3	25
RCA106D	TO-220	4	85
RCA107D	TO-220	4	85
40944	TO-8	4.5	75
2N3525	TO-66	5	75
40554	TO-66	5	60
40379	TO-5†	7	65
40655	TO-5†	7	60
40657	TO-5†	7	50
40869	TO-220	8	80
40739	PF	10	75
40743	Stud	10	85
40747	ISO-S	10	85
2N3670	TO-3	12.5	80
2N1849A	TO-48	16	80
40751	PF	20	75
40755	Stud	20	75
40759	ISO-S	20	75
2N688	TO-48	25	65
2N3653	TO-48	35	40
2N3872	PF	35	65
2N3898	Stud	35	65
40682	ISO-S	35	60

High voltage operation 50 and 60 Hz; V_{DROM} = 250 V to 750 V.

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40506	TO-66*	1.7	25
2N4102	TO-8	2	25
40813	TO-5	2.5	75
40888§	TO-66	3.2	60
40889§	TO-66	3.2	60

High V operation (Cont'd)

RCA Type	Pkg.	Max. $I_{T(rms)}$ at T_C A	°C
40835	TO-5*	3.3	25
RCA106E	TO-220	4	85
RCA106M	TO-220	4	85
RCA107E	TO-220	4	85
RCA107M	TO-220	4	85
40945	TO-8	4.5	75
2N4101	TO-66	5	75
40555	TO-66	5	60
40640	TO-66	5	60
40641	TO-66	5	60
40768	TO-66	5	25
40888	TO-66	5	60
40889	TO-66	5	60
40833	TO-5†	7	60
40834	TO-5‡	7	50
40740	PF	10	85
40744	Stud	10	85
40748	ISO-S	10	85
2N4103	TO-3	12.5	80
2N1847A	TO-48	16	80
2N1848A	TO-48	16	80
2N1850A	TO-48	16	80
40752	PF	20	75
40756	Stud	20	75
40760	ISO-S	20	75
2N686	TO-48	25	65
2N687	TO-48	25	65
2N689	TO-48	25	65
2N690	TO-48	25	65
2N3652	TO-48	35	40
2N3873	PF	35	65
2N3899	Stud	35	65
40216	TO-48	35	60
40683	ISO-S	35	60
40735	TO-48	35	40
40937	PF	35	65
40938	Stud	35	65
40952	ISO-S	35	60

*With factory attached heat radiator. †Similar to indicated package. ‡With factory attached heat spreader. §Intended for horizontal-deflection service.

SEE LAST PAGES OF LISTING

FOR SEMICONDUCTOR PRICING

THYRISTORS (DIACS)

Diacs for triggering Triacs.

RCA Type	Pkg.	$V_{(BO)}$ V	i_{pk} Max. A
45411	DO-26	29–35	190
45412	DO-26	25–40	190

SILICON RECTIFIERS CONTROLLED AVALANCHE

I_O = 0.5 A max. at T_A = 75° C.

RCA Type	Pkg.	Max. V_{RRM} V	$V_{(BR)R}$ V
40808	DO-26	600	700–1100
40809	DO-26	800	900–1300

SEE PRECEDING PAGE FOR ILLUSTRATIONS

SILICON RECTIFIERS

LOW CURRENT

I_O at T_A = 150° C.

RCA Type	Pkg.	Maximum V_{RRM} V	Maximum I_O A
1N3754	TO-1*	100	0.125†
1N3755	TO-1*	200	0.125†
1N3756	TO-1*	400	0.125†
1N440B	DO-1	100	0.25
1N441B	DO-1	200	0.25
1N442B	DO-1	300	0.25
1N443B	DO-1	400	0.25
1N536	DO-1	50	0.25
1N537	DO-1	100	0.25
1N538	DO-1	200	0.25
1N539	DO-1	300	0.25
1N540	DO-1	400	0.25
1N547	DO-1	600	0.25
1N1095	DO-1	500	0.25
1N4458	DO-1	600	0.4
1N444B	DO-1	500	0.425

I_O at T_A = 75° C.

RCA Type	Pkg.	Maximum V_{RRM} V	Maximum I_O A
1N3563	DO-26	1000	0.4
1N3196	DO-26	800	0.5
1N3256	DO-26	800	0.5
40892	DO-1	700	0.6‡
1N3193	DO-26	200	0.75
1N3194	DO-26	400	0.75
1N3195	DO-26	600	0.75
1N3253	DO-26	200	0.75
1N3254	DO-26	400	0.75
1N3255	DO-26	600	0.75
1N5214	DO-26	800	0.75
1N5218	DO-26	800	0.75
1N1763A	DO-1	400	1
1N1764A	DO-1	500	1
1N2858A	DO-1	50	1

I_O at T_A = 75° C (Cont'd)

RCA Type	Pkg.	Maximum V_{RRM} V	Maximum I_O A
1N2859A	DO-1	100	1
1N2860A	DO-1	200	1
1N2861A	DO-1	300	1
1N2862A	DO-1	400	1
1N2863A	DO-1	500	1
1N2864A	DO-1	600	1
1N5211	DO-26	200	1
1N5212	DO-26	400	1
1N5213	DO-26	600	1
1N5215	DO-26	200	1
1N5216	DO-26	400	1
1N5217	DO-26	600	1
40642	DO-26	550	1‡
40643	DO-26	450	1‡
40644	DO-26	550	1‡
44001	Plas.	50	1
44002	Plas.	100	1
44003	Plas.	200	1
44004	Plas.	400	1
44005	Plas.	600	1
44006	Plas.	800	1
44007	Plas.	1000	1

I_O at T_A = 70° C.

RCA Type	Pkg.	Maximum V_{RRM} V	Maximum I_O A
1N5391	DO-15	50	1.5
1N5392	DO-15	100	1.5
1N5393	DO-15	200	1.5
1N5394	DO-15	300	1.5
1N5395	DO-15	400	1.5
1N5396	DO-15	500	1.5
1N5397	DO-15	600	1.5
1N5398	DO-15	800	1.5
1N5399	DO-15	1000	1.5
40266	DO-1	100	2§
40267	DO-1	200	2§
40890	DO-1	750	2#
40891	DO-1	700	2#

*Similar to indicated package. †T_A = 65° C; ‡45° C; §105° C. #T_J = 150° C.

HIGH CURRENT

I_O at T_C = 150° C except 1N1612 thru 1N1616, T_C = 135° C. Also available in reverse polarity, add suffix **R** (1N1612**R**, 40108**R**).

RCA Type	Pkg.	Maximum V_{RRM} V	Maximum I_O A
1N1612	DO-4	50	5
1N1613	DO-4	100	5
1N1614	DO-4	200	5
1N1615	DO-4	400	5
1N1616	DO-4	600	5
1N1341B	DO-4	50	6
1N1342B	DO-4	100	6
1N1344B	DO-4	200	6
1N1345B	DO-4	300	6
1N1346B	DO-4	400	6
1N1347B	DO-4	500	6
1N1348B	DO-4	600	6
40108	DO-4	50	10
40109	DO-4	100	10
40110	DO-4	200	10
40111	DO-4	300	10
40112	DO-4	400	10
40113	DO-4	500	10
40114	DO-4	600	10
40115	DO-4	800	10
1N1199A	DO-4	50	12
1N1200A	DO-4	100	12
1N1202A	DO-4	200	12
1N1203A	DO-4	300	12
1N1204A	DO-4	400	12
1N1205A	DO-4	500	12
1N1206A	DO-4	600	12

RCA Type	Pkg.	Maximum V_{RRM} V	Maximum I_O A
40208	DO-5	50	18
40209	DO-5	100	18
40210	DO-5	200	18
40211	DO-5	300	18
40212	DO-5	400	18
40213	DO-5	500	18
40214	DO-5	600	18
1N248C	DO-5	55	20
1N249C	DO-5	110	20
1N250C	DO-5	220	20
1N1195A	DO-5	300	20
1N1196A	DO-5	400	20
1N1197A	DO-5	500	20
1N1198A	DO-5	600	20
1N1183A	DO-5	50	40
1N1184A	DO-5	100	40
1N1186A	DO-5	200	40
1N1187A	DO-5	300	40
1N1188A	DO-5	400	40
1N1189A	DO-5	500	40
1N1190A	DO-5	600	40
40956	DO-5	50	40
40957	DO-5	100	40
40958	DO-5	200	40
40959	DO-5	400	40
40960	DO-5	600	40

SILICON HIGH VOLTAGE RECTIFIER ASSEMBLIES

RCA Type	Pkg.	Max. V_{RRM} V	I_O at T_A Max. A	I_O at T_A °C
CR110	A	10130	0.6	60
CR109	A	9495	0.6	60
CR108	A	8230	0.6	60
CR107	A	7595	0.6	60
CR106	A	6330	0.65	60
CR105	A	5065	0.7	60
CR104	A	4430	0.7	60
CR103	A	3185	0.825	60
CR102	A	2530	0.925	60
CR101	A	1265	1	60
CR201	B	1900	0.615	25
CR203	B	3165	0.615	25
CR204	B	4800	0.615	25
CR206	B	6330	0.615	25
CR208	B	8000	0.615	25
CR210	B	10000	0.615	25
CR212	B	12000	0.615	25
CR280	B	24000	0.615	25
CR301	C	2400	5	50
CR302	C	3600	5	50
CR303	C	4800	5	50
CR304	C	6000	5	50
CR305	C	7200	5	50
CR306	C	8400	5	50
CR307	C	9600	5	50
CR311	C	2400	9	50
CR312	C	3600	9	50
CR313	C	4800	9	50
CR314	C	6000	9	50
CR315	C	7200	9	50
CR316	C	8400	9	50
CR317	C	9600	9	50
CR321	C	2400	12	50
CR322	C	3600	12	50
CR323	C	4800	12	50
CR324	C	6000	12	50
CR325	C	7200	12	50
CR331	C	2400	17	50

RCA Type	Pkg.	Max. V_{RRM} V	I_O at T_A Max. A	I_O at T_A °C
CR332	C	3600	17	50
CR333	C	4800	17	50
CR334	C	6000	17	50
CR335	C	7200	17	50
CR341	C	2400	23	50
CR342	C	3600	23	50
CR343	C	4800	23	50
CR344	C	6000	23	50
CR351	C	2400	35	50
CR352	C	3600	35	50
CR353	C	4800	35	50
CR354	C	6000	35	50

SILICON BRIDGE RECTIFIERS

CR400 Series are single-phase, full wave; CR500 Series are three-phase, full wave.

RCA Type	Pkg.	I_O A	$V_{OUT(AV)}$ V
CR401	C	18	200
CR402	C	18	400
CR403	C	18	800
CR404	C	34	200
CR405	C	34	400
CR406	C	34	800
CR407	C	70	200
CR408	C	70	400
CR409	C	70	800
CR501	C	24	300
CR502	C	24	600
CR503	C	46	300
CR504	C	46	600
CR505	C	92	300
CR506	C	92	600

SILICON REPLACEMENT RECTIFIERS

RCA Type	Pkg.	Feature	Replaces Types
CR273/8008	D	Hermetically sealed; needs no warm-up time	8008
CR274/872A	D		872, 872A
CR275/866A/3B28/3B25	D		866, 866A 3B28, 3B25

PACKAGED CIRCUIT FUNCTIONS

POWER LINEAR AMPLIFIER

Supply voltage = 75 V.

RCA Type	Pkg.	Max. I_{OUT} A	P_{OUT} rms W
HC1000H	HCH	7	100

OPERATIONAL LINEAR AMPLIFIERS

Supply voltage = 75 V.

RCA Type	Pkg.	Max. I_{OUT} A	P_{OUT} rms W
HC2000	HCP	7	100
HC2000H	HCH	7	100

DUAL DARLINGTONS (TO-3)

In modified TO-3 pkg. Peak current = 10 A.

DUAL DARLINGTONS (CONTINUED)

RCA Type	Supply Voltage V	Current Gain Min.	Current Gain A
HC3000	70	600	3
HC3100	120	650	2

SERIES VOLTAGE REGULATORS (TO-3)

In modified TO-3 pkg. Load current = 4 A.

RCA Type	Output Voltage V	Regulation
HC4005	5	3%
HC4005A	5	1%
HC4012	12	3%
HC4012A	12	1%
HC4015	15	3%
HC4015A	15	1%

SEE FOLLOWING PAGES OF LISTING FOR SEMICONDUCTOR PRICING

RCA IS CONSTANTLY ADDING NEW

SEMICONDUCTOR AND INTEGRATED CIRCUIT DEVICES.

AS THESE BECOME AVAILABLE

WE WILL HAVE THEM IN STOCK.

RCA Semiconductor Pricing

RCA Type	Net Each, Lots of 1-99	100-999
1N248C, RC*	$1.49	$1.06
1N249C, RC*	1.60	1.16
1N250C, RC*	2.44	1.78
1N440B	.53	.38
1N441B	.60	.43
1N442B	.66	.51
1N443B	.79	.58
1N444B	.92	.67
1N445B	1.12	.82
1N536	.36	.27
1N537	.40	.29
1N538	.45	.32
1N539	.50	.36
1N540	.56	.41
1N547	.79	.57
1N1095	.61	.48
1N1183A, RA*	1.86	1.36
1N1184A, RA*	2.19	1.60
1N1186A, RA*	3.17	2.30
1N1187A, RA*	4.41	3.20
1N1188A, RA*	5.58	4.08
1N1189A, RA*	6.55	4.76
1N1190A, RA*	7.72	5.62
1N1195A, RA*	3.18	2.32
1N1196A, RA*	4.09	2.98
1N1197A, RA*	5.36	3.90
1N1198A, RA*	5.78	4.20
1N1199A, RA*	1.09	.79
1N1200A, RA*	1.25	.91
1N1202A, RA*	2.28	1.66
1N1203A, RA*	3.17	2.30
1N1204A, RA*	4.04	2.94
1N1205A, RA*	4.82	3.50
1N1206A, RA*	5.66	4.12
1N1341B, RB*	1.12	.82
1N1342B, RB*	1.22	.89
1N1344B, RB*	1.86	1.36
1N1345B, RB*	2.74	1.99
1N1346B, RB*	3.50	2.54
1N1347B, RB*	4.21	3.06
1N1348B, RB*	5.02	3.65
1N1612, R*	Order 1N1341B, RB	
1N1613, R*	Order 1N1342B, RB	
1N1614, R*	Order 1N1344B, RB	
1N1615, R*	Order 1N1346B, RB	
1N1616, R*	Order 1N1348B, RB	
1N1763A	.42	.30
1N1764A	.52	.38
1N2858A	.33	.24
1N2859A	.37	.27
1N2860A	.40	.29
1N2861A	.42	.30
1N2862A	.48	.35
1N2863A	.58	.42
1N2864A	.70	.51
1N3193	.35	.26
1N3194	.38	.28
1N3195	.53	.39
1N3196	.74	.54
1N3253	.38	.28
1N3254	.42	.30
1N3255	.56	.41
1N3256	.78	.57
1N3563	.94	.69
1N3754	Order D1300A	
1N3755	Order D1300B	
1N3756	Order D1300D	
1N5211	.38	.28
1N5212	.42	.30
1N5213	.56	.41
1N5214	.81	.59
1N5215	.42	.30
1N5216	.45	.33
1N5217	.60	.44
1N5218	.85	.62
1N5391	.27	.20
1N5392	.30	.22
1N5393	.33	.24
1N5394	.35	.26
1N5395	.37	.27
1N5396	.43	.32
1N5397	.52	.38
1N5398	.73	.53
1N5399	.93	.68
2N681*	2.34	1.70
2N682*	2.82	2.05
2N683*	3.57	2.60
2N684*	4.19	3.05
2N685*	4.81	3.50
2N686*	5.36	3.90
2N687*	5.77	4.20
2N688*	6.74	4.90
2N689*	8.05	5.85
2N690*	8.67	6.30
2N697	.52	.38
2N699	.99	.72
2N718A	1.10	.80
2N720A	1.32	.99
2N918	1.15	.84
JAN2N918	1.74	1.26
2N1479	1.12	.82
JAN2N1479	1.32	.96
2N1480, 2N1481	1.30	.95
JAN2N1480	1.49	1.08
JAN2N1481	1.56	1.13
2N1482	1.47	1.07
JAN2N1482	1.73	1.26

RCA Type	Net Each, Lots of 1-99	100-999
2N1483*	$ 1.73	$ 1.26
JAN2N1483*	2.08	1.51
JANTX2N1483*	7.85	5.70
2N1484*, 85*	1.91	1.39
JAN2N1484*, 85*	2.26	1.64
JANTX2N1484*	8.60	6.25
JANTX2N1485*	9.40	6.85
2N1486*	2.08	1.51
JAN2N1486*	2.43	1.76
JANTX2N1486*	10.30	8.55
2N1487*	2.16	1.58
JAN2N1487*	2.51	1.83
2N1488*, 89*	2.26	1.64
JAN2N1488*, 89*	2.60	1.89
2N1490*	2.51	1.83
JAN2N1490*	2.86	2.08
2N1491	1.82	1.32
2N1492	2.50	1.80
2N1493	3.30	2.40
JAN2N1493	7.43	5.40
2N1613	.65	.55
2N1700	1.90	1.38
2N1701*	2.31	1.68
2N1702*	4.54	3.30
2N1711	.89	.65
2N1842A*	2.20	1.60
2N1843A*	2.61	1.90
2N1844A*	3.30	2.40
2N1845A*	3.84	2.80
2N1846A*	4.46	3.75
2N1847A*	5.10	3.70
2N1848A*	5.51	4.00
2N1849A*	6.54	4.75
2N1850A*	7.56	5.50
2N1893L	1.43	1.04
2N2015*	9.08	6.60
JAN2N2015*, 16*	9.90	7.20
JAN2N2016*	10.75	7.80
2N2102S	1.17	.85
S2N2102	11.60	9.60
2N2270S	.74	.54
2N2304*	4.29	3.12
2N2305*	6.44	4.68
2N2338*	6.60	4.80
2N2405S	1.70	1.24
2N2594S	1.77	1.28
2N2631	4.20	3.05
2N2857	2.40	1.85
JAN2N2857	3.16	2.30
JANTX2N2857	8.65	6.30
2N2876*	12.35	10.25
2N2895	1.41	.97
2N2896	2.06	1.43
2N2897	1.16	.85
2N3053S	.55	.43
2N3054*	1.24	.87
2N3055*	1.49	1.13
JAN2N3055*	2.34	1.62
JANTX2N3055*	8.25	6.00
2N3118	4.95	3.60
2N3119	5.36	3.90
2N3228*	1.47	1.07
2N3229*	22.21	18.38
2N3232*	.99	.80
2N3262	8.30	6.00
2N3263	46.40	38.40
2N3264*	40.60	33.60
2N3265*	47.15	39.00
2N3266*	40.45	33.50
2N3375*	8.75	6.75
JAN2N3375*	11.70	10.35
JANTX2N3375*	21.60	17.85
2N3435	7.43	5.40
2N3439	1.59	1.10
JAN2N3439	2.29	1.67
JANTX2N3439	8.03	5.81
2N3440	1.14	.79
JAN2N3440	1.96	1.42
JANTX2N3440	7.81	5.55
2N3441*	1.56	1.13
JAN2N3441*	1.91	1.39
2N3442*	3.03	2.21
JAN2N3442*	3.64	2.65
2N3478	1.48	1.08
2N3525*	1.77	1.29
2N3528	1.44	1.05
2N3529	1.75	1.28
2N3553	2.25	1.70
JAN2N3553	5.78	4.20
JANTX2N3553	8.74	6.36
2N3583*	1.25	.96
2N3584*	1.79	1.38
JAN2N3584	3.17	2.30
JANTX2N3584	8.65	6.30
2N3585*	2.18	1.68
JAN2N3585*	4.67	3.40
JANTX2N3585	9.90	7.20
2N3600	2.14	1.56
2N3632*	11.50	9.50
2N3650*	7.80	5.70
2N3651*	12.00	8.04
2N3652*	15.00	10.05
2N3653*	20.75	13.90
2N3668*	2.39	1.74
2N3669*	2.81	2.04
2N3670*	3.80	2.76
2N3732	Use SK3034	

RCA Type	Net Each, Lots of 1-99	100-999
2N3733	$12.70	$10.50
2N3771*	3.04	2.24
JAN2N3771*	5.35	3.90
JANTX2N3771*	17.67	13.11
2N3772*	3.04	2.24
JAN2N3772*	5.09	4.40
JANTX2N3772*	17.67	13.11
2N3773*	4.95	3.60
2N3839	9.90	7.20
2N3866	1.40	1.00
JAN2N3866	4.44	3.24
JANTX2N3866	5.94	4.32
2N3870	3.63	2.64
2N3871	4.54	3.30
2N3872	5.94	4.32
2N3873	7.34	5.34
2N3878	1.65	1.35
2N3879*	2.70	1.97
2N3896*	3.96	2.88
2N3897*	4.87	3.54
2N3898*	6.27	4.56
2N3899*	7.67	5.58
2N4012*	14.20	11.75
2N4036S	.97	.71
2N4037S	.78	.56
2N4063*	1.35	.98
2N4064*	1.06	.77
2N4101*	2.22	1.61
2N4102	2.22	1.60
2N4103*	5.12	3.72
2N4240*	1.95	1.50
2N4314S	.87	.64
2N4347*	2.16	1.58
2N4348*	3.58	2.60
2N4427	1.40	1.00
2N4440*	11.30	9.35
JAN2N4440*	18.00	15.00
JANTX2N4440*	24.00	20.00
2N4932*, 3*	21.50	15.80
2N5016*	30.05	22.00
2N5034*	1.65	1.20
2N5035*	1.63	1.19
2N5036*	1.78	1.30
2N5037*	1.76	1.28
2N5038*	5.78	4.20
JAN2N5038*	10.30	7.50
JANTX2N5038*	13.05	10.80
2N5039*	4.87	3.54
JAN2N5039*	8.67	6.30
JANTX2N5039*	11.60	9.60
2N5070*, 1*	24.70	18.50
JAN2N5071	34.65	25.20
JANTX2N5071	39.60	28.80
2N5090*	11.40	8.30
2N5102*	21.75	18.00
2N5109	2.14	1.58
JAN2N5109	4.46	3.24
JANTX2N5109	9.49	6.90
2N5179	.81	.59
2N5180	.83	.60
2N5202*	2.47	1.80
2N5239*	2.97	2.16
2N5240*	3.47	2.52
2N5262	4.06	2.92
2N5293-96	.73	.53
2N5297, 98	.74	.54
2N5320	1.14	.83
2N5321	1.04	.76
2N5322	1.47	1.07
2N5323	1.09	.78
2N5415	1.46	1.01
2N5416	1.98	1.38
2N5441	5.64	4.10
2N5442	6.77	4.92
2N5443	8.46	6.16
2N5444*	5.97	4.34
2N5445*	7.10	5.16
2N5446*	8.79	6.40

	1-24	25-99	100-249
2N5470	$50.00	$43.00	$36.00

	1-99	100-999
2N5490*-95*	$0.96	$0.70
2N5496*, 97*	1.04	.76
2N5567	3.05	2.22
2N5568	3.66	2.66
2N5569*	3.38	2.46
2N5570*	3.99	2.90
2N5571	3.25	2.36
2N5572	3.89	2.83
2N5573*	3.58	2.60
2N5574*	4.22	3.07
2N5575*, 76*	27.41	22.68
2N5577*, 78*	30.45	25.20
2N5579	29.00	24.00
2N5580*	33.50	27.72
2N5671	12.35	10.65
2N5672	16.25	14.38
2N5754	1.19	.87
2N5755	1.41	1.02
2N5756	1.69	1.23
2N5757	2.12	1.54
2N5781	1.47	1.07
2N5782	1.43	1.04
2N5783	1.40	1.02

*Mounting hardware supplied with device.

RCA Semiconductor Pricing

RCA Type	Net Each, Lots of 1-99	100-999
2N5784	$ 1.24	$ .90
2N5785	1.08	.78
2N5786	.99	.72
2N5804*	4.54	3.30
2N5805*	5.95	4.32
2N5838*	2.67	1.93
2N5839*	2.84	2.05
2N5840*	3.17	2.29
2N5913	3.25	2.35
2N5914*	11.05	8.05
2N5915*	12.15	10.00
2N5916*	12.33	10.20
2N5917*	11.60	9.60
2N5918*	12.00	10.20
2N5919A	16.30	14.00

	1-24	25-99	100-249
2N5920	75.00	64.50	54.00
2N5921	100.00	86.00	72.00

	1-99	100-999
2N5954*	1.56	1.14
2N5955*	1.40	1.02
2N5956*	1.23	.90
2N5992*		
2N5993*		
2N5994*		
2N5995*	9.20	6.70
2N5996*		
2N6032*	34.65	28.70
2N6033*	46.40	38.40
2N6055	2.08	1.60
2N6056	2.35	1.81
2N6077	2.64	1.92
2N6078	2.47	1.80
2N6079	2.96	2.16
2N6093	66.00	48.00
2N6098, 9	1.07	.78
2N6100, 1	1.15	.84
2N6102, 3	1.24	.90
2N6104, 5	47.85	39.60
2N6106*-9*	.89	.65
2N6110*, 1*	.86	.63
2N6175	.97	.68
2N6176	1.08	.75
2N6177	1.32	.92
2N6178	1.14	.83
2N6179	.99	.72
2N6180	1.42	1.03
2N6181	1.12	.82
2N6211*	3.04	2.59
2N6212*	3.71	3.16
2N6213	5.33	4.54
2N6214	7.35	6.27
2N6246	1.98	1.44
2N6247	2.31	1.68
2N6248	2.64	1.92
2N6249	6.65	5.75
2N6250	7.38	6.38
2N6251	7.91	6.84
2N6253	1.13	.82
2N6254	1.98	1.50
2N6257	2.48	1.80
2N6258		
2N6259	5.95	4.30
2N6260	1.14	.79
2N6261	1.40	.98
2N6262	3.22	2.34
2N6263	1.24	.90
2N6264	1.82	1.32

	1-24	25-99
2N6265	75.00	64.50
2N6266	100.00	93.00
2N6267	120.00	104.00
2N6268	75.00	64.50
2N6269	150.00	130.00

	1-99	100-999
2N6288, 9	.78	.56
2N6290-3	.81	.59
2N6354	5.20	3.78
2N6371	1.49	1.18
2N6372	1.40	1.02
2N6373	1.23	.90
2N6374	1.07	.78
2N6383	1.73	1.26
2N6384	1.89	1.38
2N6385	2.06	1.50
2N6386	1.23	.90
2N6387	1.48	1.08
2N6388	1.63	1.19
2N6389	2.90	2.10
2N6390	60.00	52.00
2N6391	72.00	64.00
2N6392	78.00	69.00
2N6393	80.00	72.00
2N6467	1.73	1.26
2N6468	1.89	1.38
2N6469, 71	1.98	1.44
2N6470	1.56	1.14
2N6472	2.31	1.68
2N6473	.86	.64
2N6474	.93	.68
2N6475	.95	.70
2N6476	1.02	.74
3N128	1.29	.94
3N138	2.89	2.10

RCA Type	Net Each, Lots of 1-99	100-999
3N139	$2.48	$1.80
3N140	1.62	1.18
3N141	1.45	1.06
3N142	1.04	.76
3N143	1.30	.95
3N152	1.62	1.18
3N153	1.42	1.03
3N154	1.49	1.08
3N159	2.06	1.50
3N187	2.72	1.98
3N200	4.37	3.18

RCA Type	Net per 100 Lots 100-999	1000 Up
CA3000H	$2.76	$2.21
CA3001H	3.77	3.22
CA3002H	2.71	2.16
CA3005H	1.99	1.44
CA3015H	1.80	1.25
CA3015L	2.42	1.87
CA3018H	1.39	.84
CA3018L	1.81	1.26
CA3019H	.86	.62
CA3020H, 23H	2.04	1.49
CA3022H	2.07	1.52
CA3026H	1.75	1.20
CA3028AH	1.40	.85
CA3028AL	1.73	1.18
CA3033H	3.34	2.79
CA3035H	1.99	1.44
CA3039H	.86	.62
CA3039L	1.96	1.41
CA3043H	2.18	1.63
CA3045H	1.39	.84
CA3045L	1.81	1.26
CA3048H	2.90	2.35
CA3049H	1.91	1.39
CA3049L	3.37	2.82
CA3054H	1.56	1.01
CA3054L	2.05	1.50
CA3055H		
CA3056H		
CA3059H, 60H	2.42	1.87
CA3075H	1.90	1.35
CA3076H	2.09	1.54
CA3078H	2.42	1.87
CA3080H	1.11	.56
CA3081H, 82H	1.19	.86
CA3083H	1.25	.91
CA3084H	2.27	1.72
CA3084L	2.89	2.34
CA3085H	1.19	.64
CA3091H	6.79	6.24
CA3093H	1.85	1.30
CA3094H	1.22	.67
CA3095H	1.75	1.25
CA3096H	1.65	1.20
CA3097H	1.58	1.15
CA3099H	1.30	.95
CA3100H	4.25	3.00
CA3102H	2.31	1.68
CA3118H, 46H	1.49	.94
CA3183H	1.75	1.20
CA3308H		
CA3401H	.90	.70
CA3458H		

RCA Type	Net Each, Lots of 1-99	100-999
CD4000AH-2AH	$ .49	$ .41
CD4006AH	2.52	2.09
CD4007AH	.49	.41
CD4008AH	2.60	2.17
CD4009AH, 10AH	1.26	1.04
CD4011AH, 12AH	.49	.41
CD4013AH	1.05	.87
CD4014AH, 15AH	2.74	2.28
CD4016AH	1.05	.87
CD4017AH	2.74	2.28
CD4018AH	3.09	2.57
CD4019AH	1.23	1.03
CD4020AH		
CD4021AH	2.74	2.28
CD4022AH	2.64	2.20
CD4023AH	.49	.41
CD4024AH	1.97	1.63
CD4025AH	.49	.41
CD4026AH	2.64	2.13
CD4027AH	1.62	1.35
CD4028AH	2.37	1.97
CD4029AH	2.54	2.03
CD4030AH	1.05	.88
CD4031AH	5.64	4.70
CD4032AH	2.77	2.31
CD4033AH	2.64	2.13
CD4034AH	5.36	4.86
CD4035AH	2.72	2.26
CD4036AH	4.19	3.68
CD4037AH	2.46	2.03
CD4038AH	2.77	2.31
CD4039AH	4.19	3.69
CA4040AH	2.89	2.41
CD4041AH-44AH	2.74	2.28
CD4045AH	3.40	2.83
CD4046AH	2.07	1.71
CD4047AH	2.18	1.82

RCA Type	Net Each, Lots of 1-99	100-999
CD4049AH, 50AH	$1.04	$ .86
CD4057AH	2.92	1.94
CH2102	1.10	0.55
CH2270	1.05	.50
CH2405	1.25	.70
CH3053	1.00	.45
CH3439	1.90	1.35
CH3440	1.35	.80
CH4036	1.05	.50
CH4037	1.00	.45
CH5262	1.55	1.00
CH5320	1.30	.75
CH5321	1.20	.65
CH5322	1.40	.85
CH5323	1.30	.75

RCA Type	Net Each, Lots of 1-29	30 Up
CR101	$ 5.75	$ 5.47
CR102	7.20	6.85
CR103	8.15	7.75
CR104	9.60	9.10
CR105	10.55	10.05
CR106	12.00	11.40
CR107	12.95	12.30
CR108	13.90	13.20
CR109	15.35	14.60
CR110	16.30	15.50
CR201	3.10	2.96
CR203	4.80	4.56
CR204	5.75	5.47
CR206	6.95	6.60
CR208	8.40	8.00
CR210	10.10	9.60
CR212	12.00	11.40
CR273/8008	Net Each,	60.00
CR274/872A	Net Each,	60.00
CR274	60.00	57.00
CR275/866/3B25/3B28	Net Ea.	13.10
CR280	33.60	31.90
CR282	260.00	
CR301	28.00	26.55
CR302	40.00	37.95
CR303	51.00	48.45
CR304	57.60	54.72
CR305	73.00	69.35
CR306	83.00	78.85
CR307	93.00	88.35
CR311	30.00	28.50
CR312	42.00	39.90
CR313	53.00	50.35
CR314	64.00	60.75
CR315	75.00	71.25
CR316	85.00	80.75
CR317	95.00	90.25
CR321	35.00	33.25
CR322	49.00	46.55
CR323	62.00	58.90
CR324	76.00	72.20
CR325	90.00	85.50
CR331	37.00	35.15
CR332	52.00	49.40
CR333	65.00	61.75
CR334	79.00	75.05
CR335	93.00	88.35
CR341	44.00	41.80
CR342	61.00	57.95
CR343	78.00	74.10
CR344	94.00	89.30
CR351	46.00	43.70
CR352	64.00	60.80
CR353	82.00	72.90
CR354	98.00	93.10
CR401	28.00	26.60
CR402	32.00	30.40
CR403	44.00	41.80
CR404	30.00	28.50
CR405	36.00	34.20
CR406	54.00	51.30
CR407, CR501	40.00	38.00
CR408, CR502	48.00	45.60
CR409	64.00	60.80
CR503	50.00	47.50
CR504	62.00	58.90
CR505	64.00	60.80
CR506	84.00	79.80

	1-24	25-99	100-999
HC2000H	40.00	40.00	34.50
HC2500	38.00	38.00	30.80
HC3000			
HC3100			
HC4100			
R44M10	45.50	39.00	31.20
R44M13	52.50	45.00	36.00
R44M15	61.50	52.50	42.00
R47M10	45.50	39.00	31.20
R47M13	52.50	45.00	36.00
R47M15	61.50	52.50	42.00
R51M10	52.50	45.00	36.00
R51M12	61.50	52.50	42.00

	1-99	100-999
RCA1A01	.74	.54
RCA1A02	.52	.38

*Mounting hardware supplied with device.

RCA Semiconductor Pricing

RCA Type	Net Each, Lots of 1-99	100-999
RCA1A03	$ 1.31	$ .95
RCA1A04	1.50	1.09
RCA1A105	.78	.55
RCA1A06	.71	.52
RCA1A07	0.50	0.36
RCA1A08	.52	.38
RCA1A09	.74	.54
RCA1A10, 13	.83	.60
RCA1A11	.66	.48
RCA1A15	.50	.36
RCA1A16	.52	.38
RCA1A17	.84	.61
RCA1A18	.41	.30
RCA1A19	.45	.32
RCA1B01	1.65	1.20
RCA1B04	2.64	1.92
RCA1B05	2.89	2.10
RCA1B06	2.15	1.56
RCA1C03, 4	.99	.72
RCA1C05, 6	.91	.66
RCA1C07, 8	1.49	1.08
RCA1C09	1.25	.91
RCA1C10, 11	.79	.58
RCA1C12, 13	1.16	.84
RCA1C14	.91	.66
RCA1E02	1.73	1.26
RCA1E03	2.31	1.68
RCA29	.70	.53
RCA29A	.80	.60
RCA29B	.91	.68
RCA29C	1.03	.77
RCA30	.68	.50
RCA30A	.95	.71
RCA30B	1.06	.80
RCA30C	1.21	.91
RCA31	.91	.68
RCA31A	.99	.75
RCA31B	1.10	.83
RCA31C	1.24	.93
RCA32	1.05	.79
RCA32A	1.14	.85
RCA32B	1.24	.93
RCA32C	1.40	1.05
RCA41	1.19	.90
RCA41A	1.28	.96
RCA41B	1.40	1.05
RCA41C	1.60	1.20
RCA42	1.42	1.07
RCA42A	1.53	1.15
RCA42B	1.67	1.25
RCA42C	1.85	1.39
RCA101	2.10	1.40
RCA102	2.70	1.80
RCA103	2.40	1.60
RCA104	2.85	1.90
RCA105	2.33	1.55
RCA106A1	Order S2060A	
RCA106B1	Order S2060B	
RCA106C1	Order S2060C	
RCA106D1	Order S2060D	
RCA106E1	Order S2060E	
RCA106F1	Order S2060F	
RCA106M1	Order S2060M	
RCA106Q1, 107A1	Order S2060Q	
RCA106Y1	Order S2060Y	
RCA107B1	Order S2061B	
RCA107C1	Order S2061C	
RCA107D1	Order S2061D	
RCA107E1	Order S2061E	
RCA107F1	Order S2061F	
RCA107M1	Order S2061M	
RCA107Q1	Order S2061Q	
RCA107Y1	Order S2061Y	
RCA108A	Order S2062A	
RCA108B	Order S2062B	
RCA108C	Order S2062C	
RCA108D	Order S2062D	
RCA108E	Order S2062E	
RCA108F	Order S2062F	
RCA108M	Order S2062M	
RCA108Q	Order S2062Q	
RCA108Y	Order S2062Y	
RCA201	1.75	1.15
RCA202	2.35	1.55
RCA203	2.05	1.35
RCA204	2.40	1.60
RCA205	1.92	1.25
RCA370	1.07	.82
RCA371	1.50	1.11
RCA410	2.30	1.85
RCA411	2.55	2.05
RCA413	2.56	1.87
RCA423	3.90	3.06
RCA431	5.00	3.95
RCA507	3.30	2.40
RCA508	Order 43104	
RCA520	.94	.72
RCA521	1.32	.98
RCA1000	2.12	1.57
RCA1001	2.89	2.14
RCA2003	92.00	80.00
RCA2005	110.00	93.00
RCA2010	120.00	104.00
RCA3001	100.00	90.00
RCA3003	150.00	135.00
RCA3005	225.00	200.00
RCA3054	.79	.59

RCA Type	Net Each, Lots of 1-99	100-999
RCA3055	$ .99	$ .83
40080	1.55	1.10
40081	1.96	1.44
40082	4.04	2.94
40084	1.13	0.82
40108, R*	.99	.72
40109, R*	1.16	.84
40110, R*	1.57	1.14
40111, R*	2.14	1.56
40112, R*	2.48	1.80
40113, R*	3.14	2.28
40114, R*	3.71	2.70
40115, R*	6.60	4.80
40216*	Order 56431M	
40250*	1.24	.87
40250V1*	1.44	1.00
40251	1.71	1.13
40266	.29	.21
40267	.33	.24
40279*	109.85	90.90
40280	4.62	3.36
40281*	10.60	8.75
40282*	11.90	9.85
40285*	37.70	31.20
40287*	21.75	18.00
40290	2.48	1.80
40291*	11.50	8.35
40292*	12.40	10.30
40294	23.05	19.10
40296	32.10	26.60
40305	15.10	12.50
40306*	26.85	22.20
40307*	28.85	23.90
40309	.63	.46
40309V1, V2*		
40310*	1.10	.77
40310V1	1.06	.77
40311	.64	.47
40311V1, V2		
40312*	1.26	.88
40312V1	1.46	1.01
40313*	1.55	1.13
40314	.64	.47
40314V1, V2*		
40315	.63	.46
40315V1, V2*		
40316*	.99	.72
40317	.64	.47
40317V1, V2*		
40318*	1.55	1.13
40319	.76	.55
40319V1, V2*	1.37	1.00
40320	.64	.47
40320V1, V2*		
40321	.98	.72
40321V1, V2*	1.32	.96
40322*	1.57	1.14
40323	.61	.48
40323V1, V2*		
40324*	1.10	.77
40325*	1.57	1.14
40326	.64	.47
40326V1, V2*		
40327	1.17	.81
40327V1, V2*		
40328*	1.58	1.15
40340*, 1*	21.00	15.50
40346	.77	.56
40346V1, V2*	1.23	.89
40347	1.12	.78
40347V1, V2*	1.16	.84
40348	1.06	.77
40348V1, V2*	1.14	.83
40349	1.56	1.13
40349V1, V2*	1.64	1.19
40360*	.86	.62
40360V1, V2*		
40361	.89	.65
40361V1, V2*		
40362	.81	.59
40362V1, V2	1.37	1.00
40363*	1.49	1.08
40364*	2.06	1.50
40366	5.69	4.14
40366V1, V2*		
40367	7.84	5.70
40367V1, V2*	7.92	5.75
40368	11.60	9.60
40369*	13.05	10.80
40372	1.44	1.00
40373	1.70	1.24
40374	1.57	1.14
40375	1.65	1.34
40378	1.47	1.07
40379	1.85	1.34
40385	5.36	3.90
40385V1, V2*		
40388	5.77	4.20
40389	.68	.49
40390	1.06	.77
40391, 94*	.87	.64
40392*	.79	.58
40406	.81	.59
40407	.61	.44
40408	.91	.66
40409	.94	.68
40410	.97	.71

RCA Type	Net Each, Lots of 1-99	100-999
40411*	$ 3.47	$ 2.52
40412	1.06	.77
40412V1, V2*	1.14	.83
40414	6.10	4.44
40429*	Order T2700B	
40430*	Order T2700D	
40433	2.30	1.68
40437	.51	.37
40446*	4.29	3.12
40467A	1.24	.90
40468A	.75	.54
40484	2.15	1.56
40485*	Use SK3532	
40486*	Use SK5332	
40502	Order T2710B	
40503	Order T2710D	
40504	Order S2710B	
40505	Order S2710D	
40506	Order S2710M	
40507	1.63	1.19
40508	2.01	1.46
40509	Use SK3532	
40510	Use SK3532	
40513*	1.65	1.20
40514*	1.66	1.21
40525	Order T2300A	
40526	Order T2300B	
40527	Order T2300D	
40528	Order T2302A	
40529	Order T2302B	
40530	Order T2302D	
40531	Order T2310A	
40532	Order T2310B	
40533	Order T2310D	
40534	Order T2312A	
40535	Order T2312B	
40536	Order T2312D	
40537	.74	.54
40538	.76	.55
40539	.69	.50
40542*	1.64	1.19
40543*	1.68	1.22
40544*	.61	.44
40553*	Order S3700B	
40554*	Order S3700D	
40555*	Order S3700M	
40559A	.70	.51
40575*	Order T4700B	
40576*	Order T4700D	
40577, 8	58.00	48.00
40581	4.87	3.54
40582*	5.12	3.72
40594	1.24	.90
40595	1.44	1.04
40600	1.24	.90
40601	1.16	.84
40602	.83	.60
40603	1.04	.76
40604	.98	.71
40605	45.00	37.25
40606*	45.00	37.25
40608	2.48	1.80
40609	1.24	.90
40610	.83	.60
40611	.59	.41
40613	.76	.55
40614	.68	.49
40615	.86	.63
40616	.61	.44
40618*	.69	.50
40619	1.37	.99
40620	.91	.67
40621*	.79	.58
40622*	.73	.53
40624*	.93	.67
40625	.79	.58
40627	.99	.72
40628	.81	.59
40629*	.69	.50
40630*	.74	.54
40631*	.90	.66
40632*	1.24	.90
40633*	1.60	1.16
40634	.91	.66
40635	.66	.48
40636*	1.65	1.20
40637A	1.65	1.30
40638		
40639	Use SK3532	
40640*	Order S3705M	
40641*	Order S3706M	
40642	Order D2601EF	
40643	Order D2601DF	
40644	Order D2600EF	
40653	2.61	1.90
40654	Order S2600B	
40655	Order S2600D	
40656	Order S2620B	
40657	Order S2620D	
40658	Order S2610B	
40659	Order S2610D	
40660	Order T6401B	
40661	Order T6401D	
40662*	Order T6411B	
40663*	Order T6411D	
40664		

*Mounting hardware supplied with device.

RCA Type	Net Each, Lots of 1-99	100-999
40665	$14.00	$11.65
40666*	12.00	9.85
40667		
40668*	Order T2800B	
40669*	Order T2800D	
40671	Order T6401M	
40672*	Order T6411M	
40673	$ 1.01	$ 0.73
40680*	Order S6420A	
40681*	Order S6420B	
40682*	Order S6420D	
40683	Order T2313A	
40684	Order T2313B	
40685	Order T2313D	
40686	Order T2313M	
40687	Order T6420B	
40688	Order T6420D	
40689	Order T6420M	
40690	Order T2301B	
40691	Order T2301D	
40692	Order T2316A	
40693	Order T2316B	
40694	Order T2316D	
40695	Order T2306A	
40696	Order T2306B	
40697	Order T2306D	
40698	Order T6406B	
40699	Order T6406D	
40700	Order T6406M	
40701	Order T6416B	
40702*	Order T6416D	
40703*	Order T6416M	
40704*	Order T6407B	
40705	Order T6407D	
40706	Order T6417B	
40707*	Order T6417D	
40708*	Order T6407M	
40709	Order T6417M	
40710*	Order T4106B	
40711	Order T4106D	
40712	Order T4116B	
40713*	Order T4116D	
40714*	Order T4706B	
40715*	Order T4706D	
40716*	Order T4107B	
40717	Order T4107D	
40718	Order T4117B	
40719*	Order T4117D	
40720*	Order T2806B	
40721*	Order T2806D	
40722*		
40727*	2.06	1.50
40728*	2.39	1.74
40729	2.23	1.62
40730	2.56	1.86
40735	Order S7430M	
40737	1.49	1.08
40738	1.57	1.14
40739	2.39	1.74
40740	3.38	2.46
40741*	1.82	1.32
40742*	1.90	1.38
40743*	2.72	1.98
40744*	3.71	2.70
40745*	2.97	2.16
40746*	3.05	2.22
40747*	3.85	2.85
40748*	4.87	3.54
40749	Order S6200A	
40750	Order S6200B	
40751	Order S6200D	
40752	Order S6200M	
40753*	Order S6210A	
40754*	Order S6210B	
40755*	Order S6210D	
40756*	Order S6210M	
40757*	Order S6220A	
40758*	Order S6220B	
40759*	Order S6220D	
40760*	Order S6220M	
40761	Order T2311B	
40762	Order T2311D	
40766	Order T2301A	
40767	Order T2311A	
40768	Order S3701M	
40769	Order T2304B	
40770	Order T2304D	
40771	Order T2305B	
40772	Order T2305D	
40775	Order T4105B	
40776	Order T4105D	
40777*	Order T4115B	
40778*	Order T4115D	
40779	Order T4104B	
40780	Order T4104D	
40781*	Order T4114B	
40782	Order T4114D	
40783	Order T4103B	
40784	Order T4103D	
40785*	Order T4113B	
40786*	Order T4113D	
40787	Order T6405B	
40788	Order T6405D	
40789*	Order T6415B	
40790*	Order T6415D	
40791	Order T6404B	
40792	Order T6404D	

RCA Type	Net Each, Lots of 1-99	100-999
40793*	Order T6414B	
40794	Order T6414D	
40795	Order T4101M	
40796*	Order T4111M	
40797	Order T4100M	
40798*	Order T4110M	
40799*	Order T4121B	
40800*	Order T4121D	
40801*	Order T4121M	
40802*	Order T4120B	
40803*	Order T4120D	
40804*	Order T4120M	
40805*	Order T6421B	
40806*	Order T6421D	
40807*	Order T6421M	
40810	$ 1.13	.82
40811	1.32	.96
40812	1.59	1.16
40813	1.98	1.44
40814S	.74	.54
40815S	.92	.67
40816	.91	.66
40817	1.15	.84
40819	1.73	1.26
40820	.94	.68
40821	.89	.65
40822	.86	.62
40823	.81	.59
40829	1.69	1.23
40830	1.53	1.11
40831	1.36	.99
40833	Order S2600M	
40834	Order S2620M	
40835	Order S2610M	

RCA Type	Net Each, Lots of 1-24	25-99
40836	$50.00	$43.00
40837	75.00	64.50

RCA Type	Net Each, Lots of 1-99	100-999
40838, 9	$1.16	$0.84
40841	.68	.49
40842	Order T2801DF	
40850	2.84	1.80
40851	3.00	2.18
40852	3.25	2.36
40853	6.44	4.68
40854	9.80	7.15
40867	Order S2800A	
40868	Order S2800B	
40869	Order S2800D	
40871	.85	.62
40872	.94	.68
40873	.83	.60
40874	.89	.65
40875	.83	.60
40876	.92	.67
40885	1.07	.74
40886	1.19	.83
40887	1.41	.98
40888	Order S3703SF	
40889	Order S3702SF	
40890	Order D2103SF	
40891	Order D2103S	
40892	Order D2101S	
40893	19.45	16.10
40894	.84	.61
40895	.81	.59
40896	.81	.59
40897	.81	.59

RCA Type	Net Each, Lots of 1-24	25-99
40898	$ 75.00	$ 64.50
40899	134.00	115.00

RCA Type	Net Each, Lots of 1-99	100-999
40900	Order T2850A	
40901	Order T2850B	
40902	Order T2850D	

RCA Type	Net Each, Lots of 1-24	25-99
40909	$134.00	$115.00

RCA Type	Net Each, Lots of 1-99	100-999
40910	$.094	$0.68
40911	1.24	.90
40912	1.37	1.00
40913	1.95	1.42
40915	3.20	2.35

RCA Type	Net Each, Lots of 1-9	10-99	100-Up
40916	Order T8430B		
40917	Order T8430D		
40918	Order T8430M		
40919	Order T8440B		
40920	Order T8440D		

RCA Type	Net Each, Lots of 1-9	10-99	100 Up
40921	Order T8440M		
40922	Order T8450B		
40923	Order T8450D		
40924	Order T8450M		

RCA Type	Net Each, Lots of 1-99	100-999
40925	$1.023	$ 7.42
40926	10.56	7.62
40927	10.30	8.52
40934	11.20	8.50
40936	13.00	10.80
40937	Order S6400N	
40938	Order S6410N	
40940	11.55	8.40
40941	11.40	8.30
40942	Order S2400A	
40943	Order S2400B	
40944	Order S2400D	
40945	Order S2400M	
40952	Order S6420N	
40953	2.30	1.68
40954	9.90	7.20
40955	14.50	12.00
40956, R	Order D2540F	
40957, R	Order D2540A	
40958, R	Order D2540B	
40959, R	Order D2540D	
40960, R	Order D2540M	
40964	2.15	1.56
40965	1.70	1.30
40967	9.10	6.60
40968	11.55	8.40
40972	2.30	1.68
40973	10.80	7.80
40974	14.50	12.00
40975	1.75	1.25
40976	2.48	1.80
40977	10.70	7.80
41008	9.10	7.60
41008A	9.10	7.60
41009	13.10	10.70
41009A	13.10	10.70
41010	13.80	11.00
41011	1.75	1.27
41014	Order T2500B	
41015	Order T2500D	
41017	Order S3800SF	
41018	Order S3800MF	
41019	Order S3800E	
41020	Order S3800S	
41021	Order S3800M	
41022	Order S3800EF	
41023	Order S3800D	
41024	6.60	4.80
41025	12.00	9.00
41026	32.00	24.00
41027	12.00	9.00
41028	32.00	24.00
43879, R	Order IN3879, R	
43880, R	Order IN3880, R	
43881, R	Order IN3881, R	
43882, R	Order IN3882, R	
43883, R	Order IN3883, R	
43884, R	Order D2406M, R	
43889, R	Order IN3889, R	
43890, R	Order IN3890, R	
43891, R	Order IN3891, R	
43892, R	Order IN3892, R	
43893, R	Order IN3893, R	
43894, R	Order D2412M, R	
43899, R	Order IN3899, R	
43900, R	Order IN3900, R	
43901, R	Order IN3901, R	
43902, R	Order IN3902, R	
43903, R	Order IN3903, R	
43904, R	Order D2520M	
44001	Order D1201F	
44002	Order D1201A	
44003	Order D1201B	
44004	Order D1201D	
44005	Order D1201M	
44006	Order D1201N	
44007	Order D1201P	
44933	Order D2201F	
44934	Order D2201A	
44935	Order D2201B	
44936	Order D2201D	
44937	Order D2201M	
44938	Order D2201N	
45411	Order D3202Y	
45412	Order D3202LL	

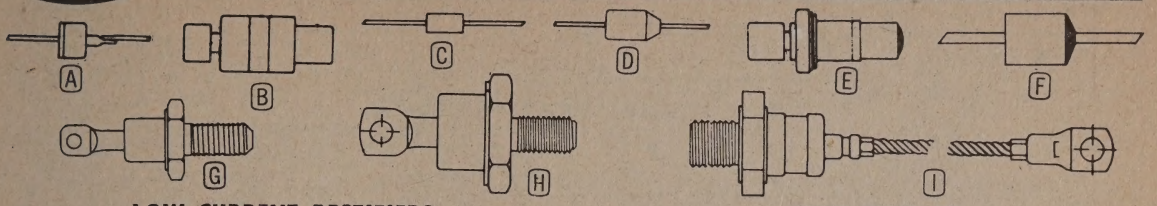
*Mounting hardware supplied with device.

JEDEC SILICON AVALANCHE RECTIFIERS

These direct replacement silicon rectifiers are supplied with avalanche characteristics as standard, providing avalanche protection at no extra cost. For additional types not necessarily covered by JEDEC numbers, see the following pages.

JEDEC Number	Net Each, Lots of 1-99	100 Up
1N248	$1.55	$1.24
1N248A, B	1.75	1.39
1N248C	1.75	1.39
1N249	1.55	1.24
1N249A, B	1.75	1.39
1N249C	2.44	1.94
1N250	2.36	1.88
1N250A, B	2.44	1.94
1N250C	2.44	1.94
1N253	1.06	.79
1N254	1.20	.96
1N255	1.73	1.20
1N256	2.48	1.60
1N332	1.73	1.20
1N333	1.73	1.20
1N334	1.40	1.02
1N335	1.40	1.02
1N336, 7	1.20	.96
1N338, 9	1.06	.79
1N340	1.06	.79
1N341, 2	1.73	1.20
1N343, 4	1.40	1.02
1N345, 6	1.20	.96
1N347	1.06	.79
1N440, B	.55	.41
1N441, B	.69	.45
1N442, B	.78	.55
1N443, B	.95	.65
1N444, B	1.05	.70
1N445, B	1.40	.80
1N532	.52	.40
1N533	.58	.44
1N534	.70	.55
1N535	.89	.62
1N536, 7	.43	.35
1N538	.48	.37
1N539	.55	.40
1N540	.65	.45
1N547	.90	.60
1N550	1.20	.89
1N551	1.24	.98
1N552	1.50	1.10
1N553	1.80	1.25
1N554	1.90	1.35
1N555	2.50	1.60
1N560	1.60	1.08
1N561	2.00	1.20
1N562	3.75	2.60
1N599	.40	.35
1N599A	.48	.43
1N600	.42	.37
1N600A	.50	.45
1N601	.47	.42
1N601A	.52	.47
1N602	.47	.42
1N602A	.52	.47
1N603	.55	.48
1N603A	.60	.53
1N604	.60	.53
1N604A	.70	.63
1N605	.70	.63
1N605A	.95	.87
1N606	.90	.80
1N606A	1.05	.90
1N607	1.13	.75
1N607A	1.19	.89
1N608	1.19	.89
1N608A	1.23	.96
1N609	1.23	.96
1N609A	1.25	.98
1N610, A	1.25	.98
1N611, A	1.50	1.10
1N612, A	1.75	1.25
1N613, A	1.85	1.35
1N614, A	2.50	1.75
1N1081	.65	.51
1N1082	.70	.53
1N1083	.75	.57
1N1084	.80	.59
1N1085A	3.34	2.66
1N1086A	4.00	3.20
1N1087A	4.67	3.73
1N1088A	5.34	4.27
1N1089	3.34	2.66
1N1090	4.00	3.20
1N1091	4.67	3.73
1N1092	5.34	4.27
1N1095	.72	.48
1N1096	.91	.61
1N1100	.47	.31
1N1101	.52	.35
1N1102	.57	.39
1N1103	.62	.42
1N1104	.75	.53
1N1105	.90	.70
1N1115	1.19	.89
1N1116	1.25	.96
1N1117	1.40	1.02
1N1118	1.70	1.20
1N1119	1.80	1.33
1N1120	2.40	1.69
1N1124, A	1.80	1.20
1N1125, A	$2.10	$1.40
1N1126, A	3.00	1.70
1N1127, A	3.50	2.10
1N1128, A	5.00	3.00
1N1183	1.85	1.30
1N1183A	1.95	1.40
1N1184	2.20	1.55
1N1184A	2.30	1.65
1N1185	2.75	2.20
1N1185A	2.80	2.25
1N1186	3.20	2.30
1N1186A	3.20	2.30
1N1187	4.60	3.15
1N1187A	4.80	3.25
1N1188	5.30	3.55
1N1188A	6.00	3.80
1N1189	6.35	4.30
1N1189A	7.10	4.70
1N1190	7.30	4.80
1N1190A	8.40	5.60
1N1191	1.42	.95
1N1191A	1.57	1.04
1N1192	1.60	1.10
1N1192A	1.80	1.44
1N1193	1.90	1.50
1N1193A	2.00	1.55
1N1194	2.25	1.80
1N1194A	2.40	2.00
1N1195	3.80	2.30
1N1195A	3.90	2.97
1N1196	4.35	2.90
1N1196A	4.50	3.45
1N1197	5.55	2.80
1N1197A	5.70	3.00
1N1198	6.30	4.25
1N1198A	6.50	4.50
1N1199	1.19	.94
1N1199A	1.20	.95
1N1199B	1.25	.96
1N1200, A	1.30	.97
1N1200B	1.30	.97
1N1201, A	1.60	1.15
1N1202, A	2.30	1.50
1N1202B	2.50	1.60
1N1203, A	3.30	2.20
1N1203B	3.30	2.20
1N1204, A	4.20	2.60
1N1204B	4.30	2.65
1N1205, A	4.90	3.05
1N1205B	5.00	3.15
1N1206, A	5.90	3.20
1N1206B	6.00	3.30
1N1217, A	1.01	.80
1N1218, A	1.01	.80
1N1219, A	1.05	.83
1N1220, A	1.05	.83
1N1221, A	1.20	.97
1N1222, A	1.25	1.00
1N1223, A	1.45	1.16
1N1224, A	1.50	1.19
1N1225	1.74	1.40
1N1226	1.80	1.44
1N1341, A	1.05	.85
1N1342, A	1.19	.89
1N1343, A	1.45	1.03
1N1344, A	1.90	1.23
1N1345, A	2.75	2.00
1N1346, A	3.70	2.93
1N1347, A	4.35	3.08
1N1348, A	5.25	3.65
1N1487	.42	.28
1N1488	.48	.29
1N1489	.50	.33
1N1490	.55	.40
1N1491	.65	.48
1N1492	.85	.65
1N1537	1.60	1.00
1N1538	1.80	1.20
1N1539	1.95	1.40
1N1540	2.10	1.60
1N1541	2.40	1.70
1N1542	3.10	2.15
1N1543	3.60	2.85
1N1544	4.60	3.30
1N1581	1.12	.90
1N1582	1.20	.95
1N1583	2.00	1.30
1N1584	2.80	2.15
1N1585	3.40	2.55
1N1612, A	1.07	.75
1N1613, A	1.24	.89
2N1614, A	1.70	1.20
2N1615	3.25	2.50
2N1615A	3.35	2.60
2N1616	4.90	3.25
2N1616A	5.10	3.35
2N1617	2.30	1.85
2N1618	2.90	2.24
2N1619	3.50	2.67
2N1620	4.35	3.45
2N1621	2.30	1.85
2N1622	2.90	2.24
2N1623	$ 3.50	$ 2.67
2N1624	4.35	3.45
1N1692	.35	.30
1N1693	.40	.32
1N1694	.53	.35
1N1695	.60	.40
1N1696	.67	.45
1N1697	.78	.50
1N1701	.56	.40
1N1702	.65	.45
1N1703	.70	.50
1N1704	.75	.55
1N1705	.90	.65
1N1706	1.40	1.00
1N1707	.56	.40
1N1708	.60	.43
1N1709	.68	.49
1N1710	.90	.55
1N1711	1.40	.80
1N1712	2.00	1.10
1N2054	18.50	12.00
1N2055	19.00	12.50
1N2056	21.50	13.50
1N2057	23.00	14.50
1N2058	24.50	15.50
1N2059	26.00	16.50
1N2060	27.50	18.00
1N2061	29.00	19.00
1N2062	31.50	24.00
1N2063	33.50	27.00
1N2064	36.50	29.00
1N2065	40.00	32.00
1N2066	43.00	34.00
1N2067	43.50	34.50
1N2068	51.00	40.50
1N2069	.30	.24
1N2069A	.32	.26
1N2070	.37	.31
1N2070A	.39	.33
1N2071	.48	.42
1N2071A	.53	.47
1N2103	.43	.31
1N2104	.49	.33
1N2105	.51	.36
1N2106	.57	.41
1N2107	.60	.46
1N2108	.75	.55
1N2154	2.24	1.80
1N2155	2.70	2.10
1N2156	4.00	3.00
1N2157	4.75	3.40
1N2158	5.50	4.00
1N2159	5.80	4.10
1N2160	6.30	4.20
1N2482	.35	.27
1N2483	.38	.32
1N2484	.45	.34
1N2485	.47	.30
1N2486	.50	.35
1N2487	.57	.43
1N2488	.60	.45
1N2489	.65	.48
1N2610	.52	.37
1N2611	.60	.41
1N2612	.70	.46
1N2613	.75	.53
1N2614	.85	.56
1N2615	.95	.66
1N2616	1.25	.77
1N2617	1.75	1.08
1N2858	.35	.28
1N2859	.38	.29
1N2860	.39	.30
1N2861	.47	.39
1N2862	.53	.43
1N2863	.60	.49
1N2864	.66	.54
1N3162	20.00	13.00
1N3163	22.00	15.00
1N3164	24.00	16.00
1N3165	25.00	16.50
1N3166	26.50	17.00
1N3167	28.00	18.00
1N3168	30.00	20.00
1N3169	32.00	22.00
1N3170	37.00	27.00
1N3171	38.50	28.00
1N3172	42.00	29.00
1N3173	46.00	30.00
1N3174	50.00	34.00
1N3175	58.00	40.00
1N3189	.90	.65
1N3190	1.10	.80
1N3191	1.75	1.20
1N3208	1.60	1.15
1N3209	1.65	1.20
1N3210	1.70	1.25
1N3211	2.40	1.60
1N3212	2.75	1.90
1N3213	3.35	2.35
1N3214	4.20	3.26
1N3260	16.10	11.00
1N3261	$17.05	$12.00
1N3262	18.00	13.00
1N3263	19.50	14.00
1N3264	20.80	14.50
1N3265	22.10	15.00
1N3266	23.20	15.50
1N3267	24.70	16.00
1N3268	27.50	18.00
1N3269	31.00	20.00
1N3270	33.00	22.00
1N3271	35.60	22.50
1N3272	39.00	24.75
1N3273	43.00	27.50
1N3274	49.20	43.00
1N3277	.40	.27
1N3289	14.50	9.79
1N3290	15.50	9.50
1N3291	16.50	10.50
1N3292	17.50	11.00
1N3293	19.50	14.00
1N3294	24.00	17.00
1N3295	28.50	19.00
1N3296	32.50	23.00
1N3491, R	1.10	.88
1N3492, R	1.20	.96
1N3493, R	1.39	1.10
1N3494, R	1.49	1.18
1N3495, R	1.59	1.26
1N3569	1.19	.89
1N3570	1.45	1.10
1N3571	2.00	1.40
1N3572	2.40	1.60
1N3573	2.50	1.80
1N3574	5.00	2.60
1N3615	1.35	.95
1N3616	1.45	1.05
1N3617	1.70	1.20
1N3618	2.70	1.90
1N3619	4.00	2.80
1N3620	5.00	3.40
1N3621	5.50	3.90
1N3622	6.00	4.20
1N3639	.50	.36
1N3640	.60	.46
1N3641	.80	.65
1N3642	1.00	.75
1N3735	20.00	12.75
1N3736	23.25	14.75
1N3737	27.25	16.50
1N3738	29.00	18.00
1N3739	32.00	21.00
1N3740	36.00	24.00
1N3741	42.00	28.00
1N3742	50.00	35.00
1N3743	58.00	36.75
1N3987	7.25	5.00
1N3988	7.75	5.35
1N3989	8.30	5.90
1N3990	8.80	6.25
1N3997-9	3.80	3.05
1N4000	3.80	3.05
1N4001	.33	.27
1N4002	.35	.29
1N4003	.43	.37
1N4004	.52	.44
1N4005	.65	.56
1N4006	.82	.60
1N4007	.90	.65
1N4012	6.50	4.50
1N4013	6.75	4.70
1N4014	7.25	5.00
1N4015	8.00	5.35
1N4044	16.00	11.00
1N4045	17.10	12.00
1N4046	18.00	13.00
1N4047	19.50	13.50
1N4048	21.80	13.75
1N4049	22.30	14.25
1N4050	28.90	20.00
1N4051	33.00	22.00
1N4052	36.00	25.00
1N4053	39.00	27.00
1N4054	42.00	28.00
1N4055	46.00	30.00
1N4056	50.00	35.00
1N4136	4.50	3.50
1N4137	6.60	4.95
1N4138	8.00	6.35
1N4383	.40	.31
1N4384	.52	.35
1N4385	.73	.50
1N4585	1.00	.79
1N4586	1.65	1.25
1N4587	13.80	9.50
1N4588	15.20	11.00
1N4589	16.20	13.30
1N4590	17.50	14.50
1N4591	18.50	15.00
1N4592	20.50	16.00
1N4593	23.80	17.00
1N4594	30.00	19.00
1N4595	34.20	24.00

SARKES TARZIAN SILICON AVALANCHE RECTIFIERS



LOW CURRENT RECTIFIERS

C SERIES 1.0 AMP—HERMETIC CASE (FIG. A)

I_{FSM} = 60 A; I^2t = 15 A^2sec. Size, 7/32" dia. x 1 1/64" lg.

Maximum PIV V	Maximum V rms	Sarkes Tarzian Number	Net Ea., Lots 1-99	Net Ea., Lots 100 Up	JEDEC Number	Net Ea., Lots 1-99	Net Ea., Lots 100 Up
100	70	10C	$0.35	$0.28	1N2610	$0.52	$0.37
200	140	20C	.40	.31	1N2611	.60	.41
300	210	30C	.50	.40	1N2612	.70	.46
400	280	40C	.60	.46	1N2613	.75	.53
600	420	60C	.65	.50	1N2615	.95	.66
800	560	80C	1.25	.77	1N2616	1.25	.77
1000	700	100C	1.75	1.08	1N2617	1.75	1.08

M SERIES 1.0 AMP (FIG. B)

I_{FSM} = 70 A; I^2t = 20 A^2sec. Size, 3/8" dia. x 1" lg.

100	70	10M	$0.60	$0.51	1N1081	$0.65	$0.51
200	140	20M	.70	.53	1N1082	.70	.53
300	210	30M	.75	.57	1N1083	.75	.57
400	280	M-500	.80	.59	1N1084	.80	.59
600	420	60M	1.35	.95	.....	.....	.....

E SERIES 1.0 AMP—PLASTIC CASE (FIG. C)

I_{FSM} = 70 A; I^2t = 20 A^2 sec. Size, 0.125" dia. x 0.250" lg.

100	70	E1	$0.31	$0.25	1N4001	$0.33	$0.27
					1N4002	.35	.29
200	140	E2	.33	.27	1N4003	.43	.37
400	280	E4	.39	.33	1N4404	.52	.44
600	420	E6	.59	.43	1N4405	.65	.56
800	560	E8	.82	.60	1N4006	.82	.60
1000	700	E10	.90	.65	1N4007	.90	.65

F SERIES 1.0 AMP—PLASTIC CASE (FIG. D)

I_{FSM} = 70 A; I^2t = 20 A^2sec. Size, 0.195" dia. x 0.55" lg.

100	70	F1	$0.31	$0.25	.....	.....	.....
200	140	F2	.33	.27	1N2069	$0.30	$0.24
					1N2482	.35	.27
400	280	F4	.39	.33	1N2070	.37	.31
					1N2483	.38	.32
600	420	F6	.59	.43	1N2071	.48	.42
					1N2484	.45	.34
800	560	F8	.82	.60	.....	.....	.....
1000	700	F10	.90	.65	.....	.....	.....

MEDIUM CURRENT RECTIFIERS

Types with suffix **P** are positive base; for negative base, change suffix P to **N** (10H3**N**) or add suffix R to JEDEC no. (1N1342**R**).

LA SERIES 2 AMPS (FIG. E)

I_{FSM} = 30 A; I^2t = 3.8 A^2sec. Size, 1/4" dia. x 1" lg.

100	70	10LA	$3.34	$2.66	1N1085A	$3.34	$2.66
200	140	20LA	4.00	3.20	1N1086A	4.00	3.20
300	210	30LA	4.67	3.73	1N1087A	4.67	3.73
400	280	40LA	5.35	4.67	1N1088A	5.34	4.27
600	420	60LA	6.45	5.15	.....	.....	.....

3AF SERIES 3 AMPS (FIG. F)

I_{FSM} = 150 A; I^2t = 93.4 A^2sec. Size, 0.375" dia. x 0.425" lg.

100	70	3AF1	$0.40	$0.35	.....	.....	.....
200	140	3AF2	.52	.44	.....	.....	.....
300	210	3AF3	.64	.55	.....	.....	.....
400	280	3AF4	.74	.63	.....	.....	.....
600	420	3AF6	1.14	.96	.....	.....	.....
800	560	3AF8	1.52	1.30	.....	.....	.....
1000	700	3AF10	1.90	1.60	.....	.....	.....

H3 SERIES 6 AMPS (FIG. G)

I_{FSM} = 200 A; I^2t = 1680 A^2sec. Size, 0.80" h. above panel; stud 7/16" lg. x 10-32 threaded.

100	70	10H3P	$1.19	$0.89	1N1342	$1.19	$0.89
200	140	20H3P	1.26	.96	1N1343	1.45	1.03
300	210	30H3P	1.35	1.02	1N1345	2.75	2.00
400	280	40H3P	1.70	1.20	1N1346	3.70	2.93
500	350	50H3P	1.80	1.33	1N1347	4.35	3.08
600	420	60H3P	2.30	1.98	1N1348	5.25	3.65

ST2 SERIES 12 AMPS (FIG. G)

I_{FSM} = 260 A; I^2t = 280 A^2sec. Size, same as H3 Series above.

100	70	ST210P	$1.19	$0.94	1N1200	$1.30	$0.97
200	140	ST220P	1.25	1.08	1N1201	1.60	1.15
300	210	ST230P	1.59	1.36	1N1203	3.30	2.20
400	280	ST240P	1.77	1.50	1N1204	4.20	2.60
500	350	ST250P	2.00	1.72	1N1205	4.90	3.05
600	420	ST260P	2.40	2.06	1N1206	5.90	3.20
800	560	ST280P	4.00	3.44	.....	.....	.....
1000	700	ST2100P	5.55	4.25	.....	.....	.....

HIGH CURRENT HERMETICALLY SEALED RECTIFIERS

Types listed are positive base; for negative base, change suffix **P** to **N** (ST3A10**N**) or add **R** to JEDEC number (1N1191**R**). Ratings given are at 150° C except as otherwise noted.

ST3A SERIES 25 AMPS (FIG. H)

I_{FSM} = 400 A; I^2t = 664 A^2sec at 135° C. Size, 1" h. above panel; stud 7/16" lg. x 1/4"-28 threaded.

Maximum PIV V	Maximum V rms	Sarkes Tarzian Number	Net Ea., Lots 1-99	Net Ea., Lots 100 Up	JEDEC Number	Net Ea., Lots 1-99	Net Ea., Lots 100 Up
100	70	ST3A10P	$1.67	$1.42	1N1191	$1.42	$0.95
200	140	ST3A20P	2.07	1.76	1N1193	1.90	1.50
300	210	ST3A30P	3.00	2.54	1N1195	3.80	2.30
400	280	ST3A40P	3.50	2.90	1N1196	4.35	2.90
500	350	ST3A50P	3.68	3.15	1N1197	5.55	2.80
600	420	ST3A60P	4.20	3.55	1N1198	6.30	4.25
800	560	ST3A80P	4.60	3.95	.....	.....	.....
1000	700	ST3A100P	5.90	4.98	.....	.....	.....

ST4 SERIES 40 AMPS (FIG. H)

I_{FSM} = 800 A; I^2t = 2660 A^2sec. Size, 1.0" h. max. above panel; stud 0.438" lg. x 1/4"-28 threaded.

100	70	ST410P	$1.97	$1.65	1N1184	$2.20	$1.55
200	140	ST420P	2.44	1.94	1N1185	2.75	2.20
300	210	ST430P	3.50	3.00	1N1187	4.60	3.15
400	280	ST440P	4.00	3.40	1N1188	5.30	3.55
500	350	ST450P	4.35	3.72	1N1189	6.35	4.30
600	420	ST460P	4.70	4.00	1N1190	7.30	4.80
800	560	ST480P	5.45	4.65	.....	.....	.....
1000	700	ST4100P	6.90	5.90	.....	.....	.....

ST5A SERIES 50 AMPS (FIG. H)

I_{FSM} = 1000 A; I^2t = 4050 A^2sec. Size, same as ST4 Series, above.

100	70	ST5A10P	$3.25	$2.60	1N2458	**	**
200	140	ST5A20P	3.81	3.00	1N2460	**	**
300	210	ST5A30P	4.55	3.88	1N2462	**	**
400	280	ST5A40P	4.85	4.15	1N2464	**	**
500	350	ST5A50P	5.45	4.65	.....	.....	.....
600	420	ST5A60P	6.30	5.37	1N2466	**	**
800	560	ST5A80P	6.85	5.88	.....	.....	.....
1000	700	ST5A100P	7.70	6.60	.....	.....	.....

**Prices on request.

ST11 SERIES 70 AMPS (FIG. H)

I_{FSM} = 1200 A; I^2t = 6000 A^2sec. Size, same as ST4 Series, above.

100	70	ST1110P	$3.59	$2.86	.....	.....	.....
200	140	ST1120P	4.18	3.30	1N4136	$4.50	$3.50
300	210	ST1130P	5.00	4.25	.....	.....	.....
400	280	ST1140P	5.35	4.58	1N4137	6.60	4.95
500	350	ST1150P	6.00	5.13	.....	.....	.....
600	420	ST1160P	6.90	5.90	1N4138	8.00	6.35
800	560	ST1180P	7.55	6.45	.....	.....	.....
1000	700	ST11100P	8.40	7.05	.....	.....	.....

ST16 SERIES 160 AMPS (FIG. I)

I_{FSM} = 3000 A; I^2t = 37,350 A^2sec. Size, 4 7/16" h. max. above panel; stud 5/8" lg. x 3/4"-24 threaded; hex 1.062" across flats.

100	70	ST1610P	$ 9.80	$ 8.30	1N4587	$13.80	$ 9.50
200	140	ST1620P	14.70	12.55	1N4588	15.20	11.00
300	210	ST1630P	15.70	13.40	1N4589	16.20	13.30
400	280	ST1640P	16.70	14.30	1N4590	17.50	14.50
500	350	ST1650P	17.40	14.90	1N4591	18.50	15.00
600	420	ST1660P	18.20	15.40	1N4592	20.50	16.00
800	560	ST1680P	20.00	17.20	1N4593	23.80	17.00
1000	700	ST16100P	21.60	18.50	1N4594	30.00	19.00
1200	840	ST16120P	22.60	19.30	1N4595	34.20	24.00

ST9 SERIES 275 AMPS (FIG. I)

I_{FSM} = 5000 A; I^2t = 103,000 A^2sec. Size, 6" h. max. above panel; stud 1 3/16" lg. x 3/4"-16 threaded; hex 1 1/4" across flats.

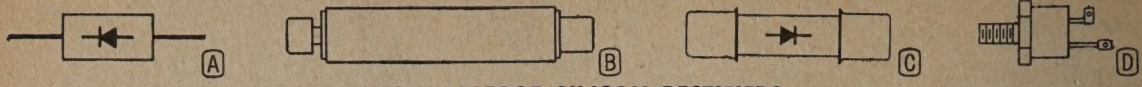
100	70	ST910P	$11.10	$ 9.45	1N3735	$20.00	$12.75
200	140	ST920P	14.00	12.00	1N3736	23.25	14.75
300	210	ST930P	14.70	12.50	1N3737	27.25	16.50
400	280	ST940P	15.30	13.10	1N3738	29.00	18.00
500	350	ST950P	17.90	15.30	1N3739	32.00	21.00
600	420	ST960P	20.50	17.50	1N3740	36.00	24.00
800	560	ST980P	23.60	20.10	1N3741	42.00	28.00
1000	700	ST9100P	28.20	24.20	1N3742	50.00	35.00
1200	840	ST9120P	37.70	32.30	1N3743	58.00	36.75

ST20 SERIES 350 AMPS (FIG. I)

I_{FSM} = 7000 A; I^2t = 203,000 A^2sec. Size, same as ST9 Series, above.

100	70	ST2010P	$11.80	$10.00	1N4044	$16.00	$11.00
200	140	ST2020P	15.00	12.90	1N4046	18.00	13.00
300	210	ST2030P	15.70	13.30	1N4048	21.80	13.75
400	280	ST2040P	16.60	13.90	1N4050	28.90	20.00
500	350	ST2050P	19.30	16.20	1N4051	33.00	22.00
600	420	ST2060P	21.60	18.60	1N4052	36.00	25.00
800	560	ST2080P	25.00	21.50	1N4054	42.00	28.00
1000	700	ST20100P	30.00	25.80	1N4056	50.00	35.00

SARKES TARZIAN — HIGH VOLTAGE— FAST RECOVERY RECTIFIERS



HIGH VOLTAGE SILICON RECTIFIERS

Ratings given are at $T_A = 55°$ C.

AXIAL LEAD (FIG. A)

Body 0.375″ O.D.; wire leads 0.031″ dia. x 2.50″ lg. min.

Max. PIV V	Sarkes Tarzian Number	Maximum DC mA	Maximum Voltage Drop V	Case Lgth., Inches	Net Each, Lots of 1-99	Net Each, Lots of 100 Up
600	1N2373	250	2	½	$ 1.25	$ 1.00
1000	1N1730	200	3	½	3.10	1.90
1000	1N2374	250	3	½	2.10	1.67
1500	1N1731	200	4	½	3.60	2.20
1500	1N2375	200	4	½	2.10	1.67
1800	HVC180	250	4	9/16	3.35	2.66
2000	1N1732	200	5	1	4.50	2.75
2000	1N2376	200	5	1 5/16	2.90	2.33
2400	1N2377	150	6	1 5/16	3.35	2.66
2400	HVC240	250	5	1 1/16	3.60	2.87
3000	1N1733	150	8	1	5.75	3.60
3000	1N2378	150	8	1	4.20	3.34
3000	HVC300	200	6	¾	3.85	3.07
4000	1N2379	100	10	1¼	5.00	4.00
4000	1N2382	150	10	1	6.80	5.00
4000	HVC400	200	8	⅞	4.00	3.20
5000	1N1734	100	15	1	8.40	5.20
5000	HVC500	200	10	1	4.15	3.34
6000	1N2380	100	15	2½	7.10	5.66
6000	1N2383	100	15	1½	7.30	5.70
6000	HVC600	150	12	1 1/16	4.55	3.66
6500	HVC650	150	13	1 3/16	5.00	4.00
7500	HVC750	150	15	1 5/16	5.40	4.34
8000	1N2384	70	20	1½	9.35	7.20
8400	HVC840	100	16	1⅜	5.85	4.66
9600	HVC960	100	18	1½	6.65	5.34
10000	1N2381	75	25	2½	11.40	9.00
10000	1N2385	70	25	2	12.00	9.00
10000	HVC1000	100	20	1¾	7.10	5.66
12000	HVC1200	75	22	1 15/16	8.35	6.66
15000	HVC1500	75	25	2 5/16	10.40	8.34
18000	HVC1800	75	30	2⅝	12.50	10.00
21000	HVC2100	50	35	3	14.60	11.67
25000	HVC2500	50	40	3½	17.50	14.00
30000	HVC3000	50	50	4 1/16	20.80	16.70

AXIAL LEAD (FIG. A)

Wire leads 0.020″ dia. x 1″ lg. min. I_O value at 40° C.

Max. PIV V	Sarkes Tarzian Number	V_F at I_O V	V_F at I_O mA	I_S (1 Hz) A	Case Size, Inches Dia. x Lgth.	Net Ea., Lots 1-99	Net Ea., Lots 100 Up
1000	3CFS10	3	300	30	.107 x .205	$1.17	$1.00
1500	3CFS15	3	300	30	.107 x .205	1.22	1.04
2000	3CFS20	3	300	30	.107 x .205	1.32	1.11
2000	5BFS20	6	180	20	.145 x .410	1.35	1.16
2500	3CFS25	3	300	30	.107 x .205	1.42	1.22
2500	5BFS25	6	180	20	.145 x .410	1.47	1.26
3000	3CFS30	3	300	30	.107 x .205	1.64	1.40
3000	5BFS30	6	180	20	.145 x .410	1.60	1.37
3000	20AFS30	20	45	8	.187 x .563	1.29	1.10
4000	5BFS40	6	180	20	.145 x .410	1.74	1.49
4000	20AFS40	20	45	8	.187 x .563	1.30	1.12
5000	10BFS50	10	110	14	.145 x .410	1.22	1.04
5000	20AFS50	20	45	8	.187 x .563	1.33	1.14
5000	25DFS50	25	30	6	.187 x 1.000	1.52	1.30
6000	10BFS60	10	110	14	.145 x .410	1.37	1.17
6000	20AFS60	20	45	8	.187 x .563	1.35	1.16
7000	10BFS70	10	110	14	.145 x .410	1.50	1.28
7000	20AFS70	20	45	8	.187 x .563	1.39	1.19
7000	25DFS70	25	30	6	.187 x 1.000	1.77	1.52
7500	10BFS75	10	110	14	.145 x .410	1.62	1.39
8000	20AFS80	20	45	8	.187 x .563	1.44	1.23
9000	20AFS90	20	45	8	.187 x .563	1.47	1.26
10000	20AFS100	20	45	8	.187 x .563	1.50	1.29
10000	25DFS100	25	30	6	.187 x 1.000	2.02	1.73
11000	25DFS110	25	30	6	.187 x 1.000	2.16	1.84
12000	25DFS120	25	30	6	.187 x 1.000	2.29	1.96
13000	25DFS130	25	30	6	.187 x 1.000	2.46	2.10
15000	45EFS150	45	30	6	.300 x 2.000	2.38	2.05
20000	45EFS200	45	30	6	.300 x 2.000	3.07	2.64
25000	45EFS250	45	30	6	.300 x 2.000	3.84	3.30
30000	70GFS300	70	30	6	.300 x 3.000	4.60	3.94
40000	70GFS400	70	30	6	.300 x 3.000	6.14	5.25

FERRULE MOUNTING

Ceramic body 0.400″ dia. max. with nickel-plated brass ferrule 0.250″ dia. x 0.250″ lg. (Fig. B); ½″ O.D. glass tubing with silver-plated brass ferrule 2½2″ O.D. x ⅝″ lg. (Fig. C).

Max. PIV V	Sarkes Tarzian Number	Fig.	Maximum DC mA	Maximum Voltage Drop V	Case Lgth., Inches	Net Each, Lots of 1-99	Net Each, Lots of 100 Up
800	1N1108	B	450	2	1 5/32	$ 2.30	$ 1.85
1200	1N1109	B	425	3	1 5/16	3.20	2.56
1500	1N1133	C	75	4	2½	3.35	2.67

FERRULE MOUNTING (CONTINUED)

Max. PIV V	Sarkes Tarzian Number	Fig.	Maximum DC mA	Maximum Voltage Drop V	Case Lgth., Inches	Net Each, Lots of 1-99	Net Each, Lots of 100 Up
1500	1N1134	C	100	4	1 3/16	$ 3.35	$ 2.67
1600	1N1110	B	400	4	2 1/32	4.10	3.30
1800	1N1135	C	65	5	2½	3.75	3.00
1800	1N1136	C	85	5	1 3/16	3.75	3.00
2000	1N1111	B	375	5	2⅞	5.00	4.00
2400	1N1112	B	350	6	3 1/32	5.90	4.70
2400	1N1137	C	50	6	2½	4.15	3.34
2400	1N1138	C	60	6	1 3/16	4.15	3.34
2800	1N1113	B	325	7	3 1/16	6.80	5.45
3600	1N1139	C	65	9	4 5/16	5.40	4.33
3600	1N1140	C	65	9	2½	5.40	4.33
4800	1N1141	C	60	12	4 5/16	7.50	6.00
4800	1N1142	C	50	12	2½	7.50	6.00
6000	1N1143	C	50	15	4 5/16	8.75	7.00
6000	1N1143A	C	65	15	4 5/16	8.75	7.00
7200	1N1144	C	50	18	6 1/16	10.00	8.00
7200	1N1145	C	60	18	4 5/16	10.00	8.00
8000	1N1146	C	45	20	6 1/16	10.85	8.66
12000	1N1147	C	45	30	6 1/16	15.00	12.00
14000	1N1148	C	50	35	6 1/16	17.10	13.65
16000	1N1149	C	45	40	6 1/16	19.10	15.31

FAST RECOVERY AXIAL LEAD (FIG. A)

High voltage, fast recovery diodes are series connected. Recovery time is 200 ns. Wire leads 0.020″ dia. x 1″ lg. min. I_O value at 40° C.

Max. PIV V	Sarkes Tarzian Number	V_F at I_O V	V_F at I_O mA	Case Size, Inches Dia. x Lgth.	Net Ea., Lots 1-99	Net Ea., Lots 100 Up
1000	3CFR10	3	200	.107 x .205	$1.53	$1.32
1500	3CFR15	3	200	.107 x .205	1.64	1.40
2000	3CFR20	3	200	.107 x .205	1.77	1.52
2000	5BFR20	6	120	.145 x .410	1.80	1.54
2500	3CFR25	3	200	.107 x .205	1.87	1.60
2500	5BFR25	6	120	.145 x .410	1.96	1.69
3000	3CFR30	3	200	.107 x .205	2.42	2.07
3000	5BFR30	6	120	.145 x .410	2.13	1.83
3000	20AFR30	20	30	.187 x .563	1.33	1.14
4000	5BFR40	6	120	.145 x .410	2.34	2.00
4000	20AFR40	20	30	.187 x .563	1.39	1.19
5000	10BFR50	10	70	.145 x .410	1.35	1.15
5000	20AFR50	20	30	.187 x .563	1.42	1.22
5000	25DFR50	25	25	.187 x 1.000	1.83	1.56
6000	10BFR60	10	70	.145 x .410	1.40	1.20
6000	20AFR60	20	30	.187 x .563	1.45	1.25
7000	10BFR70	10	70	.145 x .410	1.43	1.23
7000	20AFR70	20	30	.187 x .563	1.50	1.29
7000	25DFR70	25	25	.187 x 1.000	1.95	1.67
7500	10BFR75	10	70	.145 x .410	1.48	1.27
8000	20AFR80	20	30	.187 x .563	1.54	1.32
9000	20AFR90	20	30	.187 x .563	1.58	1.36
10000	20AFR100	20	30	.187 x .563	1.65	1.42
10000	25DFR100	25	25	.187 x 1.000	2.24	1.92
11000	25DFR110	25	25	.187 x 1.000	2.34	2.00
12000	25DFR120	25	25	.187 x 1.000	2.50	2.14
13000	25DFR130	25	25	.187 x 1.000	2.66	2.30
15000	45EFR150	45	25	.300 x 2.000	2.56	2.25
20000	45EFR200	45	25	.300 x 2.000	3.37	2.89
25000	45EFR250	45	25	.300 x 2.000	4.22	3.62
30000	70GFR300	70	25	.300 x 3.000	5.05	4.34
40000	70GFR400	70	25	.300 x 3.000	6.73	5.76

SILICON CONTROLLED RECTIFIERS (FIG. D)

Four-layer, three-junction devices for switching and power control. Gate trigger voltage, 2.5 VDC at 30 mA and 25° C. Size, 1.10″ h. x 0.424″ hex; 10-32 UNF-2A stud.

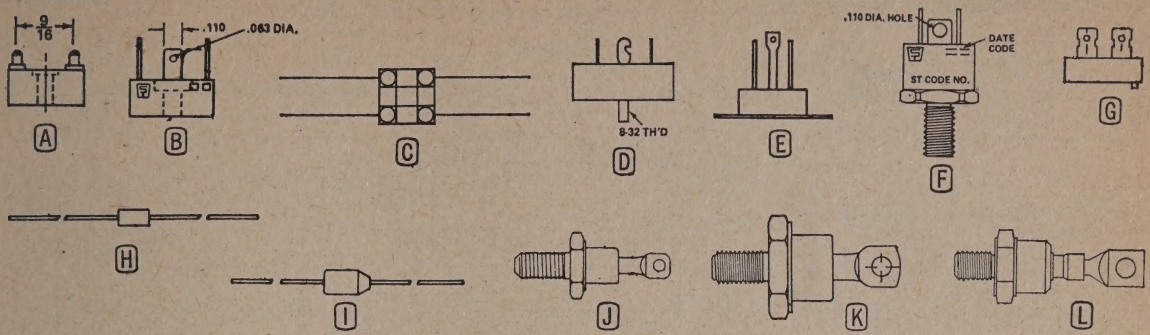
3 AMP

Sarkes Tarzian Number	V_{BO}, V_{RRM} V	V_{SROM} V	$I_{FM(surge)}$ A	Net Each, Lots of 1-99	Net Each, Lots of 100 Up
3TCRA	25	35	40	$ 1.80	$ 1.60
3TCRB	50	75	40	2.00	1.70
3TCRC	100	150	40	2.45	2.08
3TCRE	200	300	40	3.15	2.68
3TCRG	300	400	40	4.55	3.87
3TCRH	400	500	40	6.80	4.80
3TCRI	500	600	40	8.80	7.55
3TCRJ	600	700	40	11.40	9.50
3TCRK	700	800	40	17.00	14.50
3TCRL	800	900	40	22.50	19.30

5 AMP

5TCRA	25	35	60	$ 1.86	$ 1.58
5TCRB	50	75	60	2.10	1.80
5TCRC	100	150	60	2.55	2.16
5TCRE	200	300	60	3.25	2.75
5TCRG	300	400	60	4.65	3.90
5TCRH	400	500	60	6.95	6.00
5TCRI	500	600	60	9.25	7.90
5TCRJ	600	700	60	11.60	9.70
5TCRK	700	800	60	17.40	14.90
5TCRL	800	900	60	23.20	19.80

SARKES TARZIAN BRIDGES—FAST RECOVERY RECTIFIERS



BRIDGE RECTIFIER ASSEMBLIES

Compact single phase bridge rectifiers. Easy to mount. 2–12 A, 100–1000 V PIV. Single phase units to 400 A and 3-phase units to 500 A available upon request.

S6211 SERIES 2 AMPS (FIG. A)

Size, ¾″ sq. x ⅜″ h.; four terminals 3/16″ h.

Sarkes Tarzian Number	Maximum PIV V	Maximum rms Volts	Approx. DC Output Volts	Net Each, Lots of 1-24	25-99	100 Up
S6211	200	140	120	$2.12	$1.82	$1.69
S6211-1	400	280	240	2.34	2.00	1.86
S6211-2	600	420	360	2.56	2.19	2.04
S6211-3	800	560	480	3.21	2.75	2.55
S6211-4	1000	700	600	4.94	4.23	3.94

S6230 SERIES 2 AMPS (FIG. B)

Size, 9/16″ sq. x 1 3/16″ h. overall.

S6230	200	140	120	$1.47	$1.26	$1.19
S6230-1	400	280	240	1.77	1.52	1.41
S6230-2	600	420	360	2.11	1.80	1.68
S6230-3	800	560	480	2.54	2.17	2.02
S6230-4	1000	700	600	3.47	2.97	2.76

S5959 SERIES 2.5 AMPS (FIG. C)

Size, 2 1/32″ sq. x ⅜″ h.; 0.032″ dia. leads.

S5959	200	140	120	$1.94	$1.66	$1.54
S5959-1	400	280	240	2.22	1.90	1.77
S5959-2	600	420	360	2.44	2.09	1.94
S5959-3	800	560	480	3.06	2.62	2.43
S5959-4	1000	700	600	4.71	4.03	3.75

S6121 SERIES 6 AMPS (FIG. D)

Epoxy case 1 15/32″ dia. x 9/16″ h.

S6121	100	70	60	$4.01	$3.43	$3.19
S6121-1	200	140	120	4.21	3.60	3.35
S6121-3	400	280	240	4.41	3.78	3.51
S6121-5	600	420	360	5.61	4.81	4.47
S6121-6	800	560	480	6.73	5.76	5.37
S6121-7	1000	700	600	8.10	6.90	6.46

S6323 SERIES 10 AMPS (FIG. E)

Metal housing 0.875″ dia. x 0.375″ h.; mtg. centers 1.188″.

Sarkes Tarzian Number	Maximum PIV V	Maximum rms Volts	Approx. DC Output Volts	Net Each, Lots of 1-24	25-99	100 Up
S6323-1	100	70	60	$2.24	$1.88	$1.74
S6323-2	200	140	120	2.32	1.95	1.80
S6323-4	400	280	240	2.57	2.20	2.05
S6323-6	600	420	360	2.70	2.32	2.15
S6323-8	800	560	480	3.75	3.20	2.98
S6323-10	1000	700	600	4.60	3.93	3.65

S6240 SERIES 12 AMPS (FIG. F)

Size, 1.190″ h. overall; stud 0.435″ lg. x ¼″-28 threaded.

S6240-2	200	140	120	$ 3.76	$3.22	$3.00
S6240-4	400	280	240	5.15	4.40	4.00
S6240-6	600	420	360	6.70	5.73	5.25
S6240-8	800	560	480	8.00	6.70	6.10
S6240-10	1000	700	600	10.00	8.45	7.90

S6458 SERIES 30 AMPS (FIG. G)

Aluminum case 1.125″ sq. x 0.312″ h.; four ¼″ quick disconnect terminals.

Sarkes Tarzian Number	Maximum PIV V	Maximum rms Volts	Approx. DC Output Volts	Net Each, Lots of 1-24	25-99	100 Up
S6458-05	50	35	28	$4.25	$3.08	$2.77
S6458-1	100	70	60	4.30	3.11	2.80
S6458-2	200	140	120	4.40	3.17	2.85
S6458-4	400	280	240	4.55	3.29	2.97
S6458-6	600	420	360	4.65	3.37	3.03
S6458-8	800	560	480	4.90	3.53	3.18
S6458-10	1000	700	600	5.25	3.80	3.42

FAST RECOVERY RECTIFIERS

Ratings given are at $T_A = 35°$ C (axial lead) or $T_C = 100°$ C (stud mount); $t_{rr} = 200$ nsec. Stud mount types listed are positive base; for negative base change suffix **P** to **N** (ST2FR10**N**, ST3FR10**N**).

1 AMP AXIAL LEAD (FIG. H)

$I_{FSM} = 60$ A; $I^2t = 15$ A²sec. Size, 0.125″ dia. x 0.250″ lg.; 0.031″ dia. x 1½″ lg. leads.

Maximum PIV V	Maximum rms V	Sarkes Tarzian Number	Net Ea., Lots 1-99	100 Up
100	70	ER1	$0.50	$0.40
200	140	ER2	.55	.45
300	210	ER3	.59	.48
400	280	ER4	.63	.53
600	420	ER6	.90	.71

1 AMP AXIAL LEAD (FIG. I)

Same as ER1 Series except insulated body 0.195″ dia. x 0.355″ lg.; 0.031″ dia. x 1¼″ lg. leads.

100	70	FR1	$0.50	$0.40
200	140	FR2	.55	.45
300	210	FR3	.59	.48
400	280	FR4	.63	.53
600	420	FR6	.90	.71

2 AMP AXIAL LEAD (FIG. I)

$I_{FSM} = 50$ A; $I^2t = 10.4$ A²sec. Size, 0.375″ dia. x 0.425″ lg.; 0.051″ dia. x 1¼″ lg. leads.

100	70	2AFR1	$0.61	$0.48
200	140	2AFR2	.71	.56
300	210	2AFR3	.84	.64
400	280	2AFR4	.97	.71
600	420	2AFR6	1.20	.94

3 AMP AXIAL LEAD (FIG. I)

$I_{FSM} = 120$ A; $I^2t = 60$ A²sec. Insulated body 0.196″ dia. x 0.375″ lg.; 0.051″ dia. x 1¼″ lg. leads.

Maximum PIV V	Maximum rms V	Sarkes Tarzian Number	Net Ea., Lots 1-99	100 Up
100	70	3BFR1	$0.66	$0.58
200	140	3BFR2	.86	.73
300	210	3BFR3	1.05	.91
400	280	3BFR4	1.23	1.04
600	420	3BFR6	1.89	1.60

12 AMP STUD MOUNT (FIG. J)

$I_{FSM} = 200$ A; $I^2t = 167$ A²sec. Size, 0.275″ dia. x 0.800″ h. above panel; stud 0.100″ lg. x 10-32 threaded.

100	70	ST2FR10P	$1.95	$1.55
200	140	ST2FR20P	2.03	1.78
300	210	ST2FR30P	2.63	2.25
400	280	ST2FR40P	2.92	2.48
600	420	ST2FR60P	3.88	3.30

25 AMP STUD MOUNT (FIG. K)

$I_{FSM} = 300$ A; $I^2t = 380$ A²sec. Size, 0.425″ dia. x 1″ h. above panel; stud 7/16″ lg. x ¼″-28 threaded.

100	70	ST3FR10P	$2.77	$2.35
200	140	ST3FR20P	3.42	2.90
300	210	ST3FR30P	4.95	4.20
400	280	ST3FR40P	5.80	4.80
600	420	ST3FR60P	6.95	5.85

40 AMP STUD MOUNT (FIG. K)

$I_{FSM} = 650$ A; $I^2t = 1780$ A²sec. Size, 0.50″ dia. x 1″ h. above panel; stud 0.438″ lg. x ¼″-28 threaded.

40 AMP STUD MOUNT (CONT'D)

Maximum PIV V	Maximum rms V	Sarkes Tarzian Number	Net Ea., Lots 1-99	100 Up
100	70	ST4FR10P	$3.25	$2.72
200	140	ST4FR20P	4.02	3.20
300	210	ST4FR30P	5.80	4.95
400	280	ST4FR40P	6.60	5.65
600	420	ST4FR60P	7.75	6.60

50 AMP STUD MOUNT (FIG. K)

$I_{FSM} = 800$ A; $I^2t = 2660$ A²sec. Size, 0.50″ dia. x 1″ h. above panel; stud 0.438″ lg. x ¼″-28 threaded.

100	70	ST5AFR10P	$ 5.38	$4.80
200	140	ST5AFR20P	6.30	4.95
300	210	ST5AFR30P	7.50	6.30
400	280	ST5AFR40P	8.00	6.75
600	420	ST5AFR60P	10.80	8.88

70 AMP STUD MOUNT (FIG. K)

$I_{FSM} = 960$ A; $I^2t = 3850$ A²sec. Size, 0.50″ dia. x 1″ h. above panel; stud 0.438″ lg. x ¼″-28 threaded.

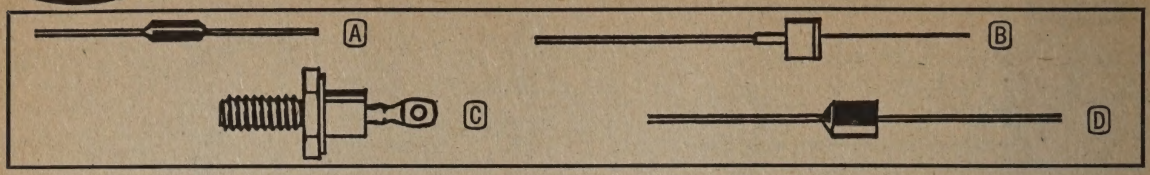
100	70	ST11FR10P	$ 5.95	$4.72
200	140	ST11FR20P	6.90	5.45
300	210	ST11FR30P	8.75	7.00
400	280	ST11FR40P	8.85	7.55
600	420	ST11FR60P	11.40	9.75

100 AMP STUD MOUNT (FIG. L)

$I_{FSM} = 1280$ A; $I^2t = 6900$ A²sec. Size, 2 7/16″ h. above panel; stud ⅝″ long x ⅜″-24 threaded.

100	70	ST6AFR10P	$13.50	$12.30
200	140	ST6AFR20P	21.80	18.70
300	210	ST6AFR30P	23.40	19.80
400	280	ST6AFR40P	24.80	21.20
600	420	ST6AFR60P	26.60	22.60

SARKES TARZIAN SILICON ZENER VOLTAGE REGULATORS



SILICON ZENER VOLTAGE REGULATORS

One series covers many JEDEC types. All meet or exceed JEDEC requirements. Tolerance ±5%; also available in ±10% and ±20%. To order, add voltage and tolerance suffix to Sarkes Tarzian No. (.25T**5.6A**, 1TA**6.8B**). For reverse polarity (10T Series) add suffix **R** (10T10**R**A).

Sarkes Tarzian Series	Fig.	Tol. ±5%	W	Net Ea., Lots 1-99	Net Ea., Lots 100 Up	Sarkes Tarzian Series	Fig.	Tol. ±5%	W	Net Ea., Lots 1-99	Net Ea., Lots 100 Up
.25T	A	A	0.25	$2.25	$1.80	10T	C	A	10	$4.50	$3.60
.4T*	A	B	0.4	2.25	1.80	10T‡	C	A	10	5.00	3.75
.4T	A	B	0.4	2.50	2.00	10T§	C	A	10	4.75	3.20
1TA	B	B	1.0	2.05	1.55	10T#	C	A	10	3.76	2.99
1TA†	B	B	1.0	2.80	2.00						

*1N752A–759A. †1N1765A–1802A. ‡1N1803A–2012A. §1N2498A–2500A. #1N2970B–3015B.

JEDEC NUMBERS AND VOLTAGES AVAILABLE

.25T (250 mW)		.4T (400 mW)		1TA Series (1 Watt)				10T Series (10 Watt)					
JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts
1N708A	5.6	1N752A	5.6	1N3016B	6.8	1N1775A	15	1N1351A	10	1N1824A	30	1N2995B	47
1N709A	6.2	1N753A	6.2	1N3017B	7.5	1N1776A	16	1N1352A	11	1N1825A	33	1N2996B	50
1N710A	6.8	1N754A	6.8	1N3018B	8.2	1N1777A	18	1N1353A	12	1N1826A	36	1N2997B	51
1N711A	7.5	1N755A	7.5	1N3019B	9.1	1N1778A	20	1N1354A	13	1N1827A	39	1N2998B	52
1N712A	8.2	1N756A	8.2	1N3020B	10	1N1779A	22	1N1355A	15	1N1828A	43	1N2999B	56
1N713A	9.1	1N757A	9.1	1N3021B	11	1N1780A	24	1N1356A	16	1N1829A	47	1N3000B	62
1N714A	10	1N758A	10	1N3022B	12	1N1781A	27	1N1357A	18	1N1830A	51	1N3001B	68
1N715A	11	1N759A	12	1N3023B	13	1N1782A	30	1N1358A	20	1N1831A	56	1N3002B	75
1N716A	12	1N957B	6.8	1N3024B	15	1N1783A	33	1N1359A	22	1N1832A	62	1N3003B	82
1N717A	13	1N958B	7.5	1N3025B	16	1N1784A	36	1N1360A	24	1N1833A	68	1N3004B	91
1N718A	15	1N959B	8.2	1N3026B	18	1N1785A	39	1N1361A	27	1N1834A	75	1N3005B	100
1N719A	16	1N960B	9.1	1N3027B	20	1N1786A	43	1N1362A	30	1N1835A	82	1N3006B	105
1N720A	18	1N961B	10	1N3028B	22	1N1787A	47	1N1363A	33	1N1836A	91	1N3007B	110
1N721A	20	1N962B	11	1N3029B	24	1N1788A	51	1N1364A	36	1N2008A	100	1N3008B	120
1N722A	22	1N963B	12	1N3030B	27	1N1789A	56	1N1365A	39	1N2009A	110	1N3009B	130
1N723A	24	1N964B	13	1N3031B	30	1N1790A	62	1N1366A	43	1N2010A	120	1N3010B	140
1N724A	27	1N965B	15	1N3032B	33	1N1791A	68	1N1367A	47	1N2011A	130	1N3011B	150
1N725A	30	1N966B	16	1N3033B	36	1N1792A	75	1N1368A	51	1N2012A	150	1N3012B	160
1N726A	33	1N967B	18	1N3034B	39	1N1793A	82	1N1369A	56	1N2498A	10	1N3013B	175
1N727A	36	1N968B	20	1N3035B	43	1N1794A	91	1N1370A	62	1N2499A	11	1N3014B	180
1N728A	39	1N969B	22	1N3036B	47	1N1795A	100	1N1371A	68	1N2500A	12	1N3015B	200
1N729A	43	1N970B	24	1N3037B	51	1N1796A	110	1N1372A	75	1N2970B	6.8		
1N730A	47	1N971B	27	1N3038B	56	1N1797A	120	1N1373A	82	1N2971B	7.5		
1N731A	51	1N972B	30	1N3039B	62	1N1798A	130	1N1374A	91	1N2972B	8.2		
1N732A	56	1N973B	33	1N3040B	68	1N1799A	150	1N1375A	100	1N2973B	9.1		
1N733A	62	1N974B	36	1N3041B	75	1N1800A	160	1N1803A	5.6	1N2974B	10		
1N734A	68	1N975B	39	1N3042B	82	1N1801A	180	1N1804A	6.2	1N2975B	11		
1N735A	75	1N976B	43	1N3043B	91	1N1802A	200	1N1805A	6.8	1N2976B	12		
1N736A	82	1N977B	47	1N3044B	100			1N1806A	7.5	1N2977B	13		
1N737A	91	1N978B	51	1N3045B	110			1N1807A	8.2	1N2978B	14		
1N738A	100	1N979B	56	1N3046B	120			1N1808A	9.1	1N2979B	15		
1N739A	110	1N980B	62	1N3047B	130			1N1809A	110	1N2980B	16		
1N740A	120	1N981B	68	1N3048B	150			1N1810A	120	1N2981B	17		
1N741A	130	1N982B	75	1N3049B	160			1N1811A	130	1N2982B	18		
1N742A	150	1N983B	82	1N3050B	180			1N1812A	150	1N2983B	19		
1N743A	160	1N984B	91	1N3051B	200			1N1813A	160	1N2984B	20		
1N744A	180	1N985B	100	1N1765A	5.6			1N1814A	180	1N2985B	22		
1N745A	200	1N986B	110	1N1766A	6.2			1N1815A	200	1N2986B	24		
1N762A	5.8	1N987B	120	1N1767A	6.8			1N1816A	13	1N2987B	25		
1N763A	7.1	1N988B	130	1N1768A	7.5			1N1817A	15	1N2988B	27		
1N764A	8.8	1N989B	150	1N1769A	8.2			1N1818A	16	1N2989B	30		
1N765A	10.5	1N990B	160	1N1770A	9.1			1N1819A	18	1N2990B	33		
1N766A	12.8	1N991B	180	1N1771A	10			1N1820A	20	1N2991B	36		
1N767A	15.8	1N992B	200	1N1772A	11			1N1821A	22	1N2992B	39		
1N768A	19			1N1773A	12			1N1822A	24	1N2993B	43		
1N769A	23.5			1N1774A	13			1N1823A	27	1N2994B	45		

PLASTIC CASE SILICON ZENER VOLTAGE REGULATORS (FIG. D)

Standard voltage tolerance ±10%; add suffix **A** for ±5%, suffix **B** for ±20%. Specifications at 25° C.

1 WATT AND 2 WATT

Max. dissipation 1 W, VR Series; 2 W, 2VR Series.

Sarkes Tarzian Number 1 Watt	2 Watt	V_B V	I_{ZT} mA	Z_Z Ohms
VR6	2VR6	6	25	4
VR7	2VR7	7	25	5
VR8.5	2VR8.5	8.5	25	6
VR10	2VR10	10	12	8
VR12	2VR12	12	12	10
VR14	2VR14	14	12	11
VR18	2VR18	18	12	17
VR20	2VR20	20	12	20
VR24	2VR24	24	4	28
VR28	2VR28	28	4	42
VR33	2VR33	33	4	50
VR39	2VR39	39	4	70
VR47	2VR47	47	4	98
VR56	2VR56	56	4	140
VR67	2VR67	67	2	200
VR80	2VR80	80	2	280
VR90	2VR90	90	1	340
VR105	2VR105	105	1	400
VR110	2VR110	110	1	490
VR120	2VR120	120	1	570
VR130	2VR130	130	1	650
VR150	2VR150	150	1	860
VR160	2VR160	160	1	970
VR180	2VR180	180	1	1200
VR200	2VR200	200	1	1400

3 WATT

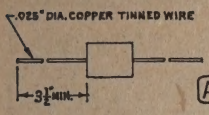
Max. dissipation, 3 watts.

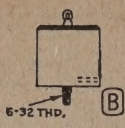
S-T No.	V_B V	I_{ZT} mA	Z_Z Ohms	S-T No.	V_B V	I_{ZT} mA	Z_Z Ohms
3VR6	6	250	1.0	3VR67	67	30	30
3VR8.5	8.5	250	1.5	3VR90	90	30	60
3VR12	12	250	2.0	3VR120	120	15	100
3VR18	18	75	3.0	3VR150	150	15	200
3VR24	24	75	5.0	3VR180	180	15	300
3VR33	33	75	8.0	3VR200	200	15	350
3VR47	47	30	15.0				

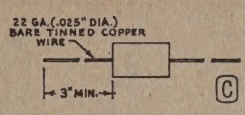
VR, 2VR AND 3VR PRICING

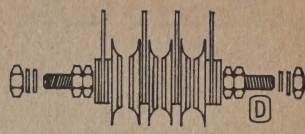
Sarkes Tarzian Number	Tolerance	Net Each, Lots of 1-99	Net Each, Lots of 100 Up
VR6–VR100	±10%	$1.25	$0.93
VR6A–VR100A	±5%	1.80	1.35
VR6B–VR100B	±20%	.90	.72
VR101–VR200	±10%	1.90	1.43
VR101A–VR200A	±5%	2.26	1.70
VR101B–VR200B	±20%	1.50	1.25
2VR6–2VR100	±10%	1.50	1.12
2VR6A–2VR100A	±5%	2.08	1.63
2VR6B–2VR100B	±20%	1.08	.87
2VR101–2VR200	±10%	2.28	1.72
2VR101A–2VR200A	±5%	2.72	2.04
2VR101B–2VR200B	±20%	1.80	1.50
3VR6–3VR200	±10%	2.72	2.05
3VR6A–3VR200A	±5%	3.30	2.45
3VR6B–3VR200B	±20%	2.18	1.80

SARKES TARZIAN KLIPVOLT SURGE SUPPRESSORS









LOW CURRENT SUPPRESSORS

Size: Fig. A, .437" dia. x 5/8" l.; Fig. B, 2 1/32" w. x 1 3/32" d. x 1 9/16" h. Suffix **C**, sealed construction type: Fig. A, .445" dia. x 1" l., ends filled with plastic; Fig. C, 1 3/16" l. x 5/8" sq. phenolic housing. Voltage ratings given are maximum.

AC SINGLE-PHASE NON-POLARIZED

Max. discharge current .200 A, Fig. A; .700 A all others.

rms V	Clamp V	S-T No.	*	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	S-T No.	*	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
26	63	S-235	A	$0.75	$0.65	S-235C	A	$1.32	$1.20
26	63	S-236	B	.87	.79	S-236C	C	2.20	2.00
52	125	S-249	A	.88	.80	S-249C	A	1.45	1.30
52	125	S-250	B	1.05	.95	S-250C	C	2.35	2.20
78	190	S-251	A	1.00	.90	S-251C	A	1.56	1.41
78	190	S-252	B	1.25	1.12	S-252C	C	2.52	2.25
104	250	S-253	A	1.13	1.02	S-253C	A	1.70	1.53
104	250	S-254	B	1.25	1.13	S-254C	C	2.60	2.44
130	310	S-255	A	1.25	1.13	S-255C	A	1.82	1.64
130	310	S-256	B	1.52	1.37	S-256C	C	2.90	2.60

*Figure.

POLARIZED

Max. discharge current .250 A, Fig. A types; .850 A all others.

Block'g VDC	S-T No.	Fig.	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	S-T No.	Fig.	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
22	S-235	A	$0.75	$0.65	S-235C	A	$1.32	$1.20
22	S-236	B	.87	.79	S-236C	C	2.20	2.00
44	S-237	A	.82	.74	S-237C	A	1.40	1.26
44	S-238	B	.95	.86	S-238C	C	2.30	2.05
66	S-239	A	.95	.86	S-239C	A	1.50	1.35
66	S-240	B	1.13	1.02	S-240C	C	2.44	2.20
88	S-241	A	1.00	.90	S-241C	A	1.56	1.40
88	S-242	B	1.22	1.10	S-242C	C	2.52	2.25
110	S-243	A	1.07	.97	S-243C	A	1.63	1.57
110	S-244	B	1.30	1.17	S-244C	C	2.60	2.34
132	S-245	A	1.13	1.02	S-245C	A	1.70	1.54
132	S-246	B	1.40	1.26	S-246C	C	2.70	2.43
154	S-247	A	1.20	1.08	S-247C	A	1.75	1.58
154	S-248	B	1.48	1.34	S-248C	C	2.80	2.62

AC AND DC MEDIUM CURRENT SUPPRESSORS (FIG. D)

Prefix 2KV26-: I_{RM} = 5.9 amps, AC; 5.5 amps, DC. Size, 1 13/32" h. x 1" sq. cell.
Prefix 3KV26-: I_{RM} = 11 amps, AC and DC. Size, 1¾" h. x 1¼" sq. cell.
Prefix 4KV26-: I_{RM} = 19.6 amps, AC; 20 amps, DC. Size, 2 3/32" h. x 1.6" sq. cell, AC; 2.1" h., DC.
Prefix 5KV26-: I_{RM} = 33.9 amps, AC; 33 amps, DC. Size, 2½" h. x 2" sq. cell.
To order, specify Prefix and Suffix from the following tables: **2KV26-1A1-ZS** indicates I_{RM} = 5.9 amps, V_R = 26 VAC and length of 1 7/16"; **2KV26-1A-ZS** indicates I_{RM} = 5.5 amps, 22 VDC and length of 1 5/16".

AC SUPPRESSORS—POLARIZED

V_R V rms VAC	V_{RRM} PIV VAC	Clamp V	Inches Lgth.	SUFFIX	PREFIX 2KV26- Net Each, Lots of 1-9	PREFIX 2KV26- Net Each, Lots of 10-99	PREFIX 3KV26- Net Each, Lots of 1-9	PREFIX 3KV26- Net Each, Lots of 10-99	PREFIX 4KV26- Net Each, Lots of 1-9	PREFIX 4KV26- Net Each, Lots of 10-99	PREFIX 5KV26- Net Each, Lots of 1-9	PREFIX 5KV26- Net Each, Lots of 10-99
26	36	63	1 7/16	1A1-ZS	$1.56	$1.40	$1.82	$1.64	$2.30	$2.10	$ 3.50	$ 3.15
52	72	125	1 5/8	2A2-ZS	1.94	1.75	2.44	2.20	2.85	2.57	4.50	4.05
78	110	190	1¾	3A3-ZS	2.31	2.09	3.06	2.76	3.65	3.30	5.50	4.95
104	147	250	1 7/8	4A4-ZS	2.69	2.42	3.69	3.33	4.45	4.00	6.50	5.85
130	185	320	2	5A5-ZS	3.05	2.75	4.31	3.90	5.25	4.75	7.50	6.75
156	220	380	2¾	6A6-AS	3.44	3.05	4.94	4.45	6.05	5.45	8.50	7.65
182	260	440	2 15/16	7A7-AS	3.81	3.43	5.56	5.06	6.90	6.20	9.50	8.55
208	294	505	3 1/16	8A8-AS	4.20	3.78	6.18	5.57	7.65	6.90	10.50	9.45
260	370	630	3⅜	10A10-AS	4.94	4.45	7.44	6.70	9.25	8.45	12.50	11.25

DC SUPPRESSORS—NON-POLARIZED

V_R Blocking VDC	Inches Lgth.	SUFFIX	PREFIX 2KV26- Net Each, Lots of 1-9	PREFIX 2KV26- Net Each, Lots of 10-99	PREFIX 3KV26- Net Each, Lots of 1-9	PREFIX 3KV26- Net Each, Lots of 10-99	PREFIX 4KV26- Net Each, Lots of 1-9	PREFIX 4KV26- Net Each, Lots of 10-99	PREFIX 5KV26- Net Each, Lots of 1-9	PREFIX 5KV26- Net Each, Lots of 10-99
22	1 5/16	1A-ZS	$1.38	$1.25	$1.50	$1.35	$1.65	$1.49	$3.00	$2.70
44	1⅜	2A-ZS	1.56	1.41	1.81	1.63	2.05	1.85	3.50	3.15
66	1 9/16	3A-ZS	1.75	1.58	2.13	1.92	2.45	2.20	4.00	3.60
88	1 5/16	4A-ZS	1.94	1.75	2.44	2.20	2.85	2.57	4.50	4.05
110	1⅝	5A-ZS	2.12	1.92	2.75	2.50	3.25	2.93	5.00	4.50
132	1 11/16	6A-ZS	2.31	2.08	3.06	2.76	3.65	3.29	5.50	4.95
154	2⅜	7A-AS	2.50	2.25	3.38	3.05	4.05	3.65	6.00	5.40
176	2 7/16	8A-AS	2.69	2.43	3.69	3.32	4.45	4.05	6.50	5.95
220	2 13/32	10A-AS	3.06	2.76	4.32	3.90	5.25	4.75	7.50	6.75

AC AND DC HIGH CURRENT SUPPRESSORS (FIG. D)

Prefix 7KV26-: I_{RM} = 129.6 amps, AC; 120 amps, DC. Size, 4 9/16" h. x 4" sq. cell.
Prefix 10KV26-: I_{RM} = 259.6 amps, AC; 220 amps, DC. Size, 5 13/16" h. x 5" x 6" cell.

AC POLARIZED

V_R V rms VAC	V_{RRM} PIV VAC	Clamp V	Inches Lgth.	SUFFIX	PREFIX 7KV26- Net Ea., Lots 1-9	PREFIX 7KV26- Net Ea., Lots 10-99	PREFIX 10KV26- Net Ea., Lots 1-9	PREFIX 10KV26- Net Ea., Lots 10-99
26	36	63	2⅝	1A1-ZS	$ 5.30	$ 5.80	$ 7.90	$ 7.10
52	72	125	3	2A2-ZS	7.70	7.00	12.70	11.40
78	110	190	3⅜	3A3-ZS	11.10	10.00	17.50	15.75
104	147	250	3¾	4A4-ZS	12.45	11.20	22.30	20.10
130	185	320	4⅛	5A5-ZS	14.80	12.35	27.10	24.40
156	220	380	5 5/16	6A6-AS	17.20	15.48	31.90	28.70
182	260	440	6	7A7-AS	19.55	17.60	36.70	33.00
208	294	505	6 7/16	8A8-AS	22.00	20.00	41.50	37.35
260	370	630	7 5/16	10A10-AS	27.65	24.90	51.10	46.00

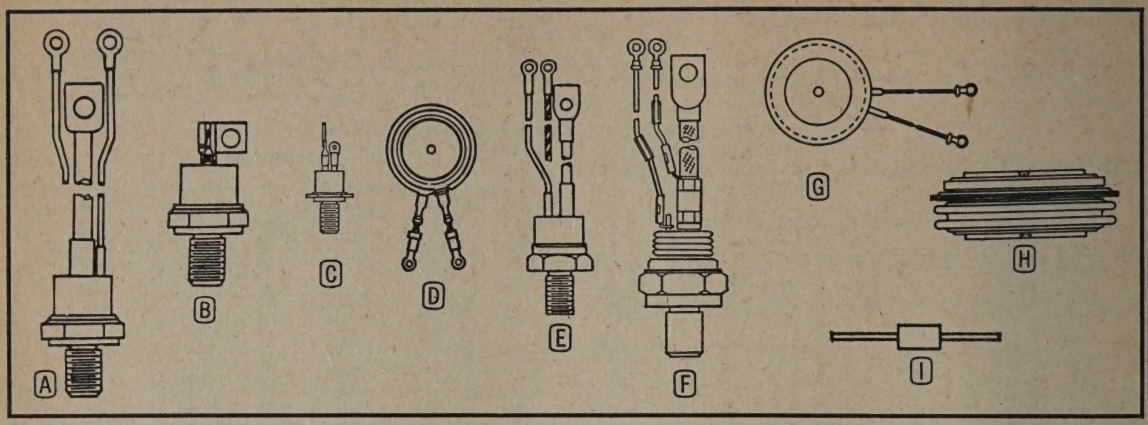
DC NON-POLARIZED

V_R Blk'g VDC	Inches Lgth.	SUFFIX	PREFIX 7KV26- Net Ea., Lots 1-9	PREFIX 7KV26- Net Ea., Lots 10-99	PREFIX 10KV26- Net Ea., Lots 1-9	PREFIX 10KV26- Net Ea., Lots 10-99
22	2	1A-ZS	$ 4.15	$ 3.75	$ 5.50	$ 5.00
44	2 3/16	2A-ZS	5.32	4.79	7.90	7.10
66	2⅜	3A-ZS	6.50	5.85	10.30	9.30
88	2 9/16	4A-ZS	7.70	7.00	12.70	11.40
110	2¾	5A-ZS	8.88	8.00	15.10	13.60
132	3	6A-ZS	10.10	9.00	17.50	15.75
154	4	7A-AS	11.25	10.13	19.90	17.90
176	4 3/16	8A-AS	12.40	11.16	22.30	21.00
220	4 9/16	10A-AS	14.80	13.32	27.10	24.40

AC MEDIUM CURRENT THREE PHASE SUPPRESSORS (FIG. D)

Prefix 2KV26-: I_{RM} = 5.9 amps. Size, 1 13/32" h. x 1" sq. cell.
Prefix 3KV26-: I_{RM} = 11 amps. Size, 1¾" h. x 1¼" sq. cell.
Prefix 4KV26-: I_{RM} = 19.6 amps. Size, 2.1" h. x 1.6" sq. cell.

V_R V rms VAC	V_{RRM} PIV VAC	Clamp V	Inches Lgth.	SUFFIX	PREFIX 2KV26- Net Each, Lots of 1-9	PREFIX 2KV26- Net Each, Lots of 10-99	PREFIX 3KV26- Net Each, Lots of 1-9	PREFIX 3KV26- Net Each, Lots of 10-99	PREFIX 4KV26- Net Each, Lots of 1-9	PREFIX 4KV26- Net Each, Lots of 10-99
26	36	63	1 15/16	1P1-ZS	$2.31	$2.08	$ 3.06	$2.76	$ 3.65	$ 3.28
52	72	125	2 13/16	2P2-ZS	3.40	3.06	4.94	4.45	6.05	5.45
78	100	190	2 27/32	3P3-ZS	3.56	4.10	6.82	6.15	8.45	7.50
104	147	250	3 7/16	4P4-AS	5.68	5.10	8.70	7.83	10.85	9.75
130	185	320	3⅞	5P5-AS	6.82	6.15	10.55	9.50	13.25	11.90



SCR types are listed by half sine-wave average current rating at 180° conduction angle. Surge ratings are peak one-half cycle currents at 60 Hz. Voltage ratings are maximum steady state blocking voltages. Complete with mounting hardware.

T507 SERIES FAST SWITCHING THYRISTORS (FIG. A AND B)

Specify flexible (Fig. A) or flag (Fig. B) terminals.
Series T507__4054—40 A avg.; 63 A rms; t_{off} = 30 μsec.
Series T507__4064—40 A avg.; 63 A rms; t_{off} = 20 μsec.

V_{FB} V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T507014054	$21.20	$12.72	T507014064*	$21.84	$13.10
200	T507024054	27.56	16.54	T507024064*	28.62	17.17
300	T507034054	28.62	17.17	T507034064*	29.68	17.81
400	T507044054	33.92	20.35	T507044064*	36.04	21.62
500	T507054054	40.28	24.17	T507054064	43.46	26.08
600	T507064054	46.64	27.98	T507064064	48.76	29.26
700	T507074054	57.24	34.34	T507074064	61.48	36.89
800	T507084054	67.84	40.70	T507084064	72.08	43.25
900	T507094054	78.44	47.06	T507094064	82.68	49.61
1000	T507104054	89.04	53.42	T507104064	93.28	55.97
1200	T507124054	99.64	59.78	.....	.....	.....

*For reverse polarity, increase fourth digit by **1** (T508014064).

Series T507__4074—40 A avg.; 63 A rms; t_{off} = 15 μsec.
Series T507__4084—40 A avg.; 63 A rms; t_{off} = 10 μsec.

V_{FB} V	W-H Type	W-H Type	Net Each, Lots of 1-9	Net Each, Lots of 10-99
100	T507014074*	T507014084*	$23.32	$13.99
200	T507024074	T507024084*	29.68	17.81
300	T507034074*	T507034084*	31.80	19.08
400	T507044074*	T507044084*	38.16	22.90
500	T507054074	T507054084	45.58	27.35
600	T507064074	T507064084	55.12	33.07
700	T507074074	.....	65.72	39.43
800	T507084074	.....	76.32	45.79

*For reverse polarity, increase fourth digit by **1** (T508014074).

T507__7054 Series: 70 A avg.; 110 A rms; t_{off} = 30 μsec.
T507__7064 Series: 70 A avg.; 110 A rms; t_{off} = 20 μsec.

V_{FB} V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T507017054	$ 23.32	$13.99	T507017064	$24.38	$14.63
200	T507027054	28.62	17.17	T507027064	29.68	17.81
300	T507037054	30.74	18.44	T507037064	31.80	19.08
400	T507047054	37.10	22.26	T507047064	38.16	22.90
500	T507057054	44.52	26.71	T507057064	46.64	27.98
600	T507067054	55.12	33.07	T507067064	57.24	34.34
700	T507077054	65.72	39.43	T507077064	67.84	40.70
800	T507087054	74.20	44.52	T507087064	78.44	47.06
900	T507097054	82.68	49.61	T507097064	89.04	53.42
1000	T507107054	95.40	47.24	T507107064	99.64	59.78
1200	T507127054	112.36	67.42	.....	.....	.....

T507__7074 Series—70 A avg.; 110 A rms; t_{off} = 15 μsec.
T507__7084 Series—70 A avg.; 110 A rms; t_{off} = 10 μsec.

V_{FB} V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T507017074	$25.44	$15.26	T507017084	$25.44	$15.26
200	T507027074	31.80	19.08	T507027084	31.80	19.08
300	T507037074	34.98	20.99	T507037084	34.98	20.99
400	T507047074	42.40	25.44	T507047084	42.40	25.44
500	T507057074	50.88	30.53	T507057084	50.88	30.53
600	T507067074	63.60	38.16	T507067084	63.60	38.16
700	T507077074	74.20	44.52	.....	.....	.....
800	T507087074	84.80	50.88	.....	.....	.....

HIGH TEMPERATURE THYRISTORS

2N2023–2N2030 (Fig. A)—80 A; 110 A rms; 1200 A surge.

V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	V_{FB} V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
25	2N2023	$23.32	$13.99	200	2N2027	$37.10	$22.26
50	2N2024	30.22	18.13	250	2N2028	38.16	22.90
100	2N2025	34.46	20.68	300	2N2029	39.22	23.53
150	2N2026	36.04	21.62	400	2N2030	42.40	25.44

LOW POWER THYRISTORS

2N681–2N690 (Fig. C)—20 A; 25 A rms max.; 150 A surge.

V_{FB} V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	V_{FB} V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
25	2N681	$4.06	$2.78	250	2N686	$5.78	$3.96
50	2N682	4.06	2.78	300	2N687	6.28	4.31
100	2N683	4.55	3.12	400	2N688	7.26	4.98
150	2N684	5.11	3.50	500	2N689	8.70	5.96
200	2N685	5.22	3.58	600	2N690	9.31	6.38

2N1842–2N1850 (Fig. C)—10 A at 56° C; 16 A rms max.; 125 A surge.
2N1842A–2N1850A (Fig. C)—10 A at 90° C; 16 A rms max.; 125 A surge.

V_{FB} V	W-H Type	Net Each, Lots of 1-99	Net Each, Lots of 100-999	W-H Type	Net Each, Lots of 1-99	Net Each, Lots of 100-999
25	2N1842	$3.22	$2.21	2N1842A	$3.22	$2.21
50	2N1843	3.22	2.21	2N1843A	3.22	2.21
100	2N1844	3.61	2.47	2N1844A	3.61	2.47
150	2N1845	4.18	2.87	2N1845A	4.18	2.87
200	2N1846	4.81	3.30	2N1846A	4.81	3.30
250	2N1847	5.53	3.79	2N1847A	5.53	3.79
300	2N1848	5.95	4.08	2N1848A	5.95	4.08
400	2N1849	7.07	4.85	2N1849A	7.07	4.85
500	2N1850	8.21	5.63	2N1850A	8.21	5.63

T400__1008 Series (Fig. C)—10 A avg.; 16 A rms.
T400__1608 Series (Fig. C)—16 A avg.; 22 A rms.

V_{FB} V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
50	T400001008	$2.92	$1.94	T400001608	$3.78	$2.54
100	T400011008	3.32	2.21	T400011608	4.32	2.92
200	T400021008	4.70	3.13	T400021608	4.77	3.19
300	T400031008	5.83	3.89	T400031608	5.91	3.94
400	T400041008	6.72	4.48	T400041608	6.97	4.64
500	T400051008	7.94	5.29	T400051608	8.10	5.40
600	T400061008	9.40	6.32	T400061608	9.15	6.10

T400__2208 Series (Fig. C)—22 A avg.; 35 A rms.
T400__2218 Series (Fig. C)—22 A avg.; 35 A rms; I_{FSM} = 360 A.

V_{FB} V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 100-10-99	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	T400002208	$4.32	$2.92	T400002218	$ 5.80	$ 3.85
100	T400012208	4.86	3.24	T400012218	6.70	4.45
200	T400022208	5.67	3.78	T400022218	8.60	5.75
300	T400032208	6.80	4.54	T400032218	10.20	6.80
400	T400042208	7.94	5.29	T400042218	13.30	8.90
500	T400052208	9.47	6.32	T400052218*	16.50	11.00
600	T400062208	10.21	6.80	T400062218†	18.00	12.00

*C137E. †C137M.

SEE PRECEDING AND FOLLOWING PAGES FOR ILLUSTRATIONS

MEDIUM POWER THYRISTORS (FIGS. A, B)

Specify flexible (Fig. A) or flag (Fig. B) terminals.

T500__50 Series—40 A avg.; 63 A rms; 1200 A surge.

V_{FB} V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	V_{FB} V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	T5100150	$15.50	$ 9.25	700	T5000740	$43.46	$26.08
200	T5100250	16.00	9.50	800	T5000840	47.70	28.62
300	T5100350	17.00	10.00	900	T5000940	53.00	31.80
400	T5100450	18.00	12.50	1000	T5001040	58.30	34.98
500				1200	T5001240	74.20	44.52
600	T5100650	23.25	17.50	1400	T5001440	84.80	50.88

2N4361–2N4368 (Fig. A)—70 A; 110 A rms max ; 1600 A surge.
2N4371–2N4378 (Fig. B)—70 A; 110 A rms max.; 1600 A surge.

V_{FB} V	W-H Type	W-H Type	Net Each, Lots of 1-9	Net Each, Lots of 10-99
100	2N4361	2N4371	$21.20	$12.72
200	2N4362	2N4372	24.92	14.95
400	2N4363	2N4373	33.92	20.35
600	2N4364	2N4374	42.40	25.44
800	2N4365	2N4375	53.00	31.80
1000	2N4366	2N4376	63.60	38.16
1200	2N4367	2N4377	73.14	43.88
1400	2N4368	2N4378	84.80	50.88

2N1700–2N1900 Series—80 A avg.; 110 A rms; 1000 A surge.

25	.....	2N1909	$21.20	$12.72
50	2N1792	2N1910	21.20	12.72
100	2N1793	2N1911	21.20	12.72
150	2N1794	2N1912	23.32	13.99
200	2N1795	2N1913	25.44	15.26
250	2N1796	2N1914	27.56	16.54
300	2N1797	2N1915	29.68	17.81
400	2N1798	2N1916	33.92	20.35
500	2N1799	2N1805	38.16	22.90
600	2N1800	2N1806	42.40	25.44
700	2N1801	2N1807	48.76	29.26
800	2N1802	.....	53.00	31.80
900	2N1803	.....	58.30	34.98
1000	2N1804	.....	63.60	38.16

T500__80 Series—80 A; 125 A rms max.; 1600 A surge.

V_{FB} V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	V_{FB} V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	T5100180	$18.00	$11.00	700	T5000780	$53.00	$31.80
200	T5100280	19.00	11.50	800	T5000880	58.30	34.98
300	T5100380	22.00	13.00	900	T5000980	63.60	38.16
400	T5100480	25.50	15.00	1000	T5001080	67.84	40.70
500	T5100580	29.00	17.50	1200	T5001280	78.44	47.06
600	T5100680	32.00	19.00	1400	T5001480	89.04	53.42

HIGH POWER THYRISTORS

T520__06 Series (Fig. D)—60 A; 95 A rms.
T520__12 Series (Fig. D)—120 A; 190 A rms.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	T5200106	$16.50	$10.00	T5200112	$19.00	$11.50
200	T5200206	17.50	10.50	T5200212	22.50	13.50
300	T5200306	21.00	12.00	T5200312	25.50	15.50
400	T5200406	23.00	13.00	T5200412	28.00	16.75
500	T5200506	25.00	15.00	T5200512	30.00	18.00
600	T5200606	29.00	17.00	T5200612	34.00	20.50
700	T5200706	33.00	20.00	T5200712	38.00	23.00
800	T5200806	38.00	23.00	T5200812	43.00	26.00
900	T5200906	43.00	26.00	T5200912	48.00	29.00
1000	T5201006	47.00	28.00	T5201012	52.00	31.00
1200	T5201206	52.00	31.00	T5201212	60.00	36.00
1400	T5201406	60.00	36.00	T5201412	70.00	42.00

T520__13 Series (Fig. D)—125 A; 200 A rms; 1600 A surge.
T600__13 Series (Fig. E)—125 A; 200 A rms; 3300 A surge.

100	T5200113	$30.00	$18.00	T6000113	$ 36.04	$21.62
200	T5200213	30.00	18.00	T6000213	40.28	24.17
300	T5200313	32.00	19.20	T6000313	45.58	27.35
400	T5200413	34.00	20.40	T6000413	53.00	31.80
500	T5200513	36.00	21.60	T6000513	63.60	38.16
600	T5200613	38.00	22.80	T6000613	71.02	42.61
700	T5200713	40.00	24.00	T6000713	79.50	47.70
800	T5200813	56.00	27.60	T6000813	90.10	54.06
900	T5200913	52.00	31.20	T6000913	98.58	59.15
1000	T5201013	56.00	33.60	T6001013	111.30	66.78
1200	T5201213	64.00	38.40	T6001213	121.90	73.14
1400	T5201413	80.00	48.00	T6001413	148.40	89.04

T620__13 Series (Fig. D)—125 A; 200 A rms; 3300 A surge.
T600__15 Series (Fig. E)—150 A; 235 A rms; 4000 A surge.

100	T6200113	$ 33.92	$20.35	T6000115	$ 42.40	$25.44
200	T6200213	36.04	21.62	T6000215	45.58	27.35
300	T6200313	40.28	24.17	T6000315	50.88	30.53
400	T6200413	46.64	27.98	T6000415	57.24	34.34
500	T6200513	55.12	33.07	T6000515	67.84	40.70
600	T6200613	63.60	38.16	T6000615	76.32	45.79
700	T6200713	68.90	41.34	T6000715	84.80	50.88
800	T6200813	75.26	45.16	T6000815	95.40	57.24
900	T6200913	82.68	49.61	T6000915	106.00	63.60
1000	T6201013	91.16	54.70	T6001015	114.48	68.69
1200	T6201213	97.52	58.51	T6001215	135.68	81.41
1400	T6201413	116.60	69.96	T6001415	159.00	95.40

HIGH POWER THYRISTORS (CONTINUED)

2N3884–2N3896 (Fig. E)—175 A; 275 A rms; 5000 A surge.
T600__18 Series (Fig. E)—175 A; 275 A rms; 5500 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
50	2N3884	$ 45.58	$ 27.35	.....	.....	.....
100	2N3885	47.70	28.62	T6000118	$ 47.70	$ 28.62
200	2N3886	50.88	30.53	T6000218	50.88	30.53
300	2N3887	56.18	33.71	T6000318	56.18	33.71
400	2N3888	63.60	38.16	T6000418	63.60	38.16
500	2N3889	74.20	44.52	T6000518	74.20	44.52
600	2N3890	81.62	48.97	T6000618	81.62	48.97
700	2N3891	95.40	57.24	T6000718	95.40	57.24
800	2N3892	106.00	63.60	T6000818	106.00	63.60
900	2N3893	116.60	69.96	T6000918	116.60	69.96
1000	2N3894	127.20	76.32	T6001018	127.20	76.32
1200	2N3895	148.40	89.04	T6001218	148.40	89.04
1400	2N3896	180.20	108.12	T6001418	201.40	120.84

T620__20 Series (Fig. D)—200 A; 320 A rms; 4000 A surge.
T700__25 Series (Fig. F)—250 A; 400 A rms; 7000 A surge.

100	T6200120	$ 33.92	$ 20.35	T7000125	$ 55.12	$ 33.07
200	T6200220	36.04	21.62	T7000225	58.30	34.98
300	T6200320	40.28	24.17	T7000325	68.60	38.16
400	T6200420	46.64	27.98	T7000425	74.20	44.52
500	T6200520	55.12	33.07	T7000525	91.16	54.70
600	T6200620	63.60	38.16	T7000625	103.88	62.33
700	T6200720	72.08	43.25	T7000725	111.30	66.78
800	T6200820	80.56	48.34	T7000825	121.90	73.14
900	T6200920	89.04	53.42	T7000925	127.20	76.32
1000	T6201020	97.52	58.51	T7001025	137.80	82.68
1200	T6201220	108.12	64.87	T7001225	159.00	95.40
1400	T6201420	127.20	76.32	T7001425	180.20	108.12
1600	.....	.....	.....	T7001625	201.40	120.84

T700__30 Series (Fig. F)—300 A; 470 A rms; 8400 A surge.
T620__30 Series (Fig. D)—300 A; 470 A rms; 5500 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	T7000130	$ 55.12	$ 33.07	T6200130	$ 33.91	$ 20.35
200	T7000230	63.60	38.16	T6200230	36.04	21.62
300	T7000330	74.20	44.52	T6200330	40.28	24.17
400	T7000430	84.80	50.88	T6200430	46.64	27.98
500	T7000530	101.76	61.06	T6200530	55.12	33.07
600	T7000630	114.48	68.69	T6200630	63.60	38.16
700	T7000730	125.08	75.05	T6200730	68.90	41.34
800	T7000830	135.68	81.41	T6200830	75.26	45.16
900	T7000930	146.28	87.77	T6200930	82.68	49.61
1000	T7001030	156.88	94.13	T6201030	91.16	54.70
1200	T7001230	182.32	109.39	T6201230	97.52	58.51
1400	T7001430	201.40	120.84	T6201430	116.60	69.96
1600	T7001630	222.60	133.56	.....	.....	.....

T700__35 Series (Fig. F)—350 A; 550 A rms; 10,000 A surge.
T720__35 Series (Fig. G)—350 A; 550 A rms; 7000 A surge.

100	T7000135	$ 59.36	$ 35.62	T7200135	$ 74.20	$ 44.52
200	T7000235	68.90	41.34	T7200235	80.56	48.34
300	T7000335	84.80	50.88	T7200335	84.80	50.88
400	T7000435	95.40	57.24	T7200435	93.28	55.97
500	T7000535	112.36	67.42	T7200535	101.76	61.06
600	T7000635	125.08	75.05	T7200635	110.24	66.14
700	T7000735	135.68	81.41	T7200735	120.84	72.50
800	T7000835	146.28	87.77	T7200835	131.44	78.86
900	T7000935	156.88	94.13	T7200935	142.04	85.22
1000	T7001035	167.48	100.49	T7201035	152.64	91.58
1200	T7001235	171.72	103.03	T7201235	163.24	97.94
1400	T7001435	233.20	139.92	T7201435	184.44	110.66
1600	.....	.....	.....	T7201635	205.64	123.38
1800	.....	.....	.....	T7201835	233.20	139.92
2000	.....	.....	.....	T7202035	275.60	165.36
2200	.....	.....	.....	T7202235	318.00	190.80

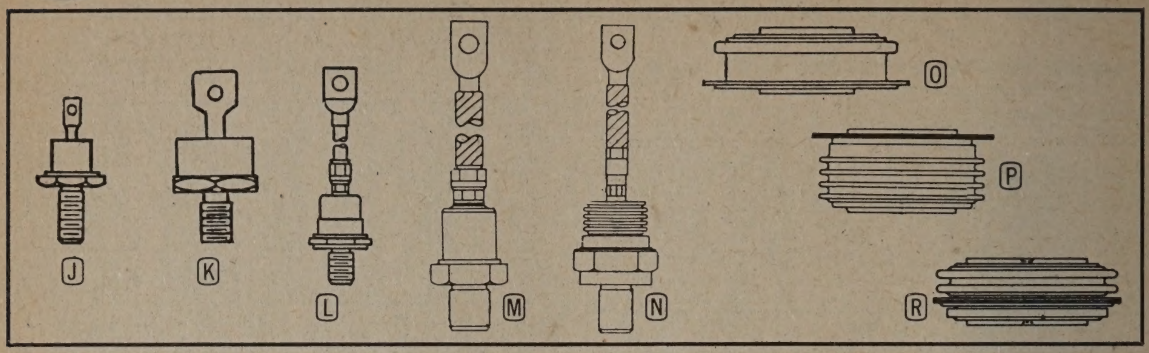
T720__45 Series (Fig. G)—450 A; 700 A rms; 8400 A surge.
T720__55 Series (Fig. G)—550 A; 850 A rms; 10,000 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	T7200145	$ 84.80	$ 50.88	T7200155	$ 95.40	$ 57.24
200	T7200245	91.16	54.70	T7200255	101.76	61.06
300	T7200345	95.40	57.24	T7200355	106.00	63.60
400	T7200445	103.88	62.33	T7200455	114.48	68.69
500	T7200545	112.36	67.42	T7200555	122.96	73.78
600	T7200645	120.84	72.50	T7200655	131.44	78.86
700	T7200745	131.44	78.86	T7200755	142.04	85.22
800	T7200845	142.04	85.22	T7200855	152.64	91.58
900	T7200945	152.64	91.58	T7200955	163.24	97.94
1000	T7201045	163.24	97.94	T7201055	173.84	104.30
1200	T7201245	180.20	108.12	T7201255	201.40	120.80
1400	T7201445	212.00	127.00	T7201455	237.44	142.46
1600	T7201645	277.72	166.63	.....	.....	.....
1800	T7201845	286.20	171.72	.....	.....	.....
2000	T7202045	318.00	190.00	.....	.....	.....

T920__10 Series (Fig. H)—1000 A; 1510 A rms; 16,000 A surge.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T9200110	$160.00	$ 96.00	700	T9200710	$270.00	$162.00
200	T9200210	170.00	102.00	800	T9200810	300.00	180.00
300	T9200310	180.00	108.00	900	T9200910	330.00	198.00
400	T9200410	200.00	120.00	1000	T9201010	360.00	210.00
500	T9200510	220.00	132.00	1200	T9201210	400.00	240.00
600	T9200610	240.00	144.00				

HIGH POWER THYRISTORS CONTINUED ON NEXT PAGE



SEE PRECEDING PAGE FOR ADDITIONAL ILLUSTRATIONS

HIGH POWER THYRISTORS (CONTINUED)

T920__06 Series (Fig. H)—600 A; 940 A rms; 10,000 A surge.
T920__08 Series (Fig. H)—800 A; 1255 A rms; 12,000 A surge.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	T9200106	$140.00	$ 84.00	T9200108	$150.00	$ 90.00
200	T9200206	150.00	90.00	T9200208	160.00	96.00
300	T9200306	160.00	96.00	T9200308	170.00	102.00
400	T9200406	170.00	102.00	T9200408	190.00	114.00
500	T9200506	185.00	111.00	T9200508	205.00	123.00
600	T9200606	200.00	120.00	T9200608	220.00	132.00
700	T9200706	220.00	132.00	T9200708	240.00	144.00
800	T9200806	240.00	144.00	T9200808	260.00	156.00
900	T9200906	260.00	156.00	T9200908	280.00	168.00
1000	T9201006	280.00	168.00	T9201008	320.00	192.00
1200	T9201206	300.00	180.00	T9201208	340.00	204.00
1400	T9201406	320.00	192.00	T9201408	360.00	216.00
1600	T9201606	340.00	204.00	T9201608	380.00	228.00
1800	T9201806	360.00	216.00	T9201808	410.00	246.00
2000	T9202006	400.00	240.00	T9202008	440.00	364.00
2200	T9202206	440.00	264.00			
2400	T9202406	500.00	300.00			
2600	T9202606	580.00	348.00			
2800	T9202806	680.00	408.00			
3000	T9203006	800.00	480.00			

HIGH POWER FAST SWITCHING THYRISTORS

T527__0644 Series (Fig. D)—60 A; 95 A rms; 1000 A surge; t_{off} = 40 μs. For t_{off} = 30 μs, specify T527__0654; same price.
T527__0664 Series (Fig. D)—Same except t_{off} = 20 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T527010644	$21.20	$12.72	T527010664	$22.26	$13.36
200	T527020644	27.56	16.54	T527020664	26.50	15.90
300	T527030644	28.62	17.17	T527030664	29.68	17.81
400	T527040644	33.92	20.35	T527040664	34.98	20.99
500	T527050644	41.34	24.80	T527050664	42.40	25.44
600	T527060644	46.64	27.98	T527060664	47.70	28.62
700	T527070644	53.00	31.80	T527070644	58.30	34.98
800	T527080644	59.36	35.62	T527080664	68.90	41.34
900	T527090644	68.90	41.34			
1000	T527100644	79.50	47.70			
1200	T527120644	95.40	57.24			
		106.00	63.60			

T527__0674 Series (Fig. D)—60 A; 95 A rms; 1000 A surge; t_{off} = 15 μs. For t_{off} = 10 μs, specify T527__0684; same price.
T527__1244 Series (Fig. D)—115 A; 180 A rms; 1200 A surge; t_{off} = 15 μs. For t_{off} = 30 μs, specify T527__1254; same price.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T527010674	$23.32	$13.99	T527011244	$23.32	$13.99
200	T527020674	29.68	17.81	T527021244	28.62	17.17
300	T527030674	31.80	19.08	T527031244	30.74	18.44
400	T527040674	38.16	22.90	T527041244	37.10	22.26
500	T527050674	45.58	27.35	T527051244	44.52	26.71
600	T527060674	55.12	33.07	T527061244	52.48	31.49
700	T527070674*	65.72	39.43	T527071244	58.30	34.98
800	T527080674*	76.32	45.79	T527081244	64.66	38.80
900				T527091244	75.26	45.16
1000				T527101244	85.86	51.52
1200				T527121244	100.70	60.42

*t_{off} = 10 μs not available.

T527__1264 Series (Fig. D)—115 A; 180 A rms; 1200 A surge; t_{off} = 20 μs.
T527__1274 Series (Fig. D)—Same except t_{off} = 15 μs. For t_{off} = 10 μs, specify T527__1284; same price.

100	T527011264	$23.32	$13.99	T527011274	$25.44	$15.26
200	T527021264	27.56	16.54	T527021274	29.68	17.81
300	T527031264	31.80	19.08	T527031274	34.98	20.99
400	T527041264	37.10	22.26	T527041274	42.40	25.44
500	T527051264	44.52	26.71	T527051274	53.00	31.80
600	T527061264	53.00	31.80	T527061274	57.78	34.67
700	T527071264	63.60	38.16			
800	T527081264	74.20	44.52			

HIGH POWER FAST SWITCHING THYRISTORS (CONT'D)

T527__1344 Series (Fig. D)—125 A; 200 A rms; 1400 A surge; t_{off} = 40 μs. For t_{off} = 30 μs, specify T527__1354; same price.
T527__1364 Series (Fig. D)—Same except t_{off} = 20 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T527011344	$24.38	$14.63	T527011364	$23.32	$13.99
200	T527021344	29.68	17.81	T527021364	27.56	16.54
300	T527031344	34.98	20.99	T527031364	31.80	19.08
400	T527041344	38.16	22.90	T527041364	37.10	22.26
500	T527051344	46.64	27.98	T527051364	44.52	26.71
600	T527061344	52.48	31.49	T527061364	53.00	31.80
700	T527071344	58.30	34.98			
800	T527081344	64.66	38.80			
900	T527091344	75.26	45.16			
1000	T527101344	85.86	51.52			
1200	T527121344	106.00	63.60			

*Not available in t_{off} = 30 μs.

T527__1374 Series (Fig. D)—125 A; 200 A rms; 1400 A surge; t_{off} = 15 μs. For t_{off} = 10 μs, specify T527__1384; same price.
T607__1344 Series (Fig. E)—125 A; 200 A rms; 3500 A surge; t_{off} = 40 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T527011374	$26.50	$15.90	T607011344	$41.34	$24.80
200	T527021374	29.68	17.81	T607021344	47.70	28.62
300	T527031374	34.98	20.99	T607031344	57.24	34.34
400	T527041374	40.28	24.17	T607041344	57.24	34.34
500	T527051374	53.00	31.80	T607051344	69.96	41.98
600	T527061374	57.78	34.67	T607061344	84.80	50.88
700				T607071344	95.40	57.24
800				T607081344	106.00	63.60
900				T607091344	116.60	69.96
1000				T607101344	137.80	82.68
1200				T607121344	148.40	89.04

T607__1354 Series (Fig. E)—125 A; 200 A rms; 3500 A surge; t_{off} = 30 μs.
T607__1364 Series (Fig. E)—Same except t_{off} = 20 μs.

100	T607011354	$44.52	$26.71	T607011364	$48.76	$29.26
200	T607021354	54.06	32.44	T607021364	58.30	34.98
300	T607031354	60.42	36.25	T607031364	64.66	38.80
400	T607041354	65.72	39.43	T607041364	71.02	42.61
500	T607051354	76.32	45.79	T607051364	82.68	49.61
600	T607061354	91.16	54.70	T607061364	97.52	58.51
700	T607071354	101.76	61.06	T607071364	108.12	64.87
800	T607081354	112.36	67.42	T607081364	118.72	71.23
900	T607091354	127.20	76.32	T607091364	137.80	82.68
1000	T607101354	148.40	89.04	T607101364	159.00	95.40
1200	T607121354	169.60	101.76			

T607__1374 Series (Fig. E)—125 A; 200 A rms; 3500 A surge; t_{off} = 15 μs.
T607__1544 Series (Fig. E)—150 A; 235 A rms; 4000 A surge; t_{off} = 40 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T607011374	$53.00	$31.80	T607011544	$44.52	$26.71
200	T607021374	61.48	36.89	T607021544	55.12	33.07
300	T607031374	67.84	40.70	T607031544	59.36	35.62
400	T607041374	76.32	45.79	T607041544	65.72	39.43
500	T607051374	89.04	53.42	T607051544	76.32	45.79
600	T607061374	103.88	62.33	T607061544	91.16	54.70
700	T607071374	120.84	72.50	T607071544	101.76	61.06
800	T607081374	142.04	85.22	T607081544	112.36	67.42
900				T607091544	127.20	76.32
1000				T607101544	148.40	89.04
1200				T607121544	169.60	101.76

HIGH POWER FAST SWITCHING THYRISTORS
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HIGH POWER FAST SWITCHING THYRISTORS (CONTINUED)

150 AMP—235 AMP rms

T607__1554 Series (Fig. E)—4000 A surge; t_{off} = 30 μs.
T607__1564 Series (Fig. E)—4000 A surge; t_{off} = 20 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T607011554	$47.70	$28.62	T607011564	$51.94	$31.16
200	T607021554	57.24	34.34	T607021564	61.48	36.89
300	T607031554	63.60	38.16	T607031564	67.84	40.70
400	T607041554	72.08	43.25	T607041564	76.32	45.79
500	T607051554	82.68	49.61	T607051564	89.04	53.42
600	T607061554	97.52	58.51	T607061564	103.88	62.33
700	T607071554	108.12	64.87	T607071564	114.48	68.69
800	T607081554	118.72	71.23	T607081564	125.08	75.05
900	T607091554	137.80	82.68	T607091564	148.40	89.04
1000	T607101554	159.00	95.40	T607101564	169.60	101.76
1200	T607121554	180.20	108.12	. . . . .	. . . . .	. . . . .

T607__1574 Series (Fig. E)—4000 A surge; t_{off} = 15 μs.
T627__1544 Series (Fig. D)—3500 A surge; t_{off} = 40 μs.

100	T607011574	$62.12	$37.27	T627011544	$37.10	$22.26
200	T607021574	64.66	38.80	T627021544	46.64	27.98
300	T607031574	71.02	42.61	T627031544	50.88	30.53
400	T607041574	82.68	49.61	T627041544	53.00	31.80
500	T607051574	95.40	47.24	T627051544	63.60	38.16
600	T607061574	110.24	66.14	T627061544	76.32	45.79
700	T607071574	127.20	76.32	T627071544	86.92	52.15
800	T607081574	148.40	89.04	T627081544	95.40	57.24
900	. . . . .	. . . . .	. . . . .	T627091544	106.00	63.60
1000	. . . . .	. . . . .	. . . . .	T627101544	125.08	75.05
1200	. . . . .	. . . . .	. . . . .	T627121544	144.16	86.50

T627__1554 Series (Fig. D)—3500 A surge; t_{off} = 30 μs.
T627__1564 Series (Fig. D)—3500 A surge; t_{off} = 20 μs.

100	T627011554	$40.28	$24.17	T627011564	$44.52	$26.71
200	T627021554	48.76	29.26	T627021564	53.00	31.80
300	T627031554	54.60	32.76	T627031564	58.30	34.98
400	T627041554	59.36	35.62	T627041564	65.60	38.16
500	T627051554	67.84	40.70	T627051564	74.20	44.52
600	T627061554	82.68	49.61	T627061564	87.98	52.79
700	T627071554	91.16	54.70	T627071564	91.52	58.51
800	T627081554	101.76	61.06	T627081564	107.06	64.24
900	T627091554	114.48	68.69	T627091564	124.02	74.41
1000	T627101554	133.56	80.14	T627101564	143.10	85.86
1200	T627121554	152.64	91.58	. . . . .	. . . . .	. . . . .

T627__1574 Series (Fig. D)—3500 A surge; t_{off} = 15 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T627011574	$48.76	$29.26	400	T627041574	$67.84	$40.70
200	T627021574	55.12	33.07	500	T627051574	80.56	48.34
300	T627031574	61.48	36.89	600	T627061574	93.28	55.97

175 AMP—275 AMP rms

T607__1844 Series (Fig. E)—4500 A surge; t_{off} = 40 μs.
T607__1854 Series (Fig. E)—4500 A surge; t_{off} = 30 μs.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	T607011844	$ 46.64	$ 27.98	T607011854	$ 50.88	$ 30.53
200	T607021844	57.24	34.34	T607021854	60.42	36.25
300	T607031844	63.60	38.16	T607031854	67.84	40.70
400	T607041844	72.08	43.25	T607041854	78.44	47.06
500	T607051844	82.68	49.61	T607051854	89.04	53.42
600	T607061844	97.52	58.51	T607061854	103.88	62.33
700	T607071844	108.12	64.87	T607071854	114.48	68.69
800	T607081844	118.72	71.23	T607081854	125.08	75.05
900	T607091844	137.80	82.68	T607091854	148.40	89.04
1000	T607101844	159.00	95.40	T607101854	169.60	101.76
1200	T607121844	190.80	114.48	. . . . .	. . . . .	. . . . .

T607__1864 Series (Fig. E)—4500 A surge; t_{off} = 20 μs.
T607__1874 Series (Fig. E)—4500 A surge; t_{off} = 15 μs.

100	T607011864	$54.06	$32.44	T607011874	$58.30	$34.98
200	T607021864	64.66	38.80	T607021874	67.84	40.70
300	T607031864	73.14	43.88	T607031874	74.20	44.52
400	T607041864	82.68	49.61	T607041874	89.04	53.42
500	T607051864	99.64	59.78	T607051874	101.76	61.06
600	T607061864	114.48	68.69	T607061874	116.60	69.96
700	T607071864	125.08	75.05	. . . . .	. . . . .	. . . . .
800	T607081864	137.80	82.68	. . . . .	. . . . .	. . . . .

200 AMP—315 AMP rms

T627__2044 Series (Fig. D)—4000 A surge; t_{off} = 40 μs.
T627__2054 Series (Fig. D)—4000 A surge; t_{off} = 30 μs.

100	T627012044	$40.28	$24.17	T627012054	$42.94	$25.76
200	T627022044	50.88	30.53	T627022054	54.60	32.76
300	T627032044	57.24	34.34	T627032054	61.48	36.89
400	T627042044	65.72	39.43	T627042054	69.96	41.98
500	T627052044	67.84	40.70	T627052054	74.20	44.52
600	T627062044	82.68	49.61	T627062054	86.92	52.15
700	T627072044	91.16	54.70	T627072054	97.52	58.51
800	T627082044	101.76	61.06	T627082054	106.00	63.60
900	T627092044	114.48	68.69	T627092054	125.08	75.05
1000	T627102044	133.56	80.14	T627102054	144 16	86.50
1200	T627122044	152.64	91.58	T627122054	163.24	97.94

200 AMP—315 AMP rms (CONTINUED)

T627__2064 Series (Fig. D)—4000 A surge; t_{off} = 20 μs.
T627__2074 Series (Fig. D)—4000 A surge; t_{off} = 15 μs.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T627012064	$ 50.88	$30.53	T627012074	$55.96	$33.58
200	T627022064	55.12	33.07	T627022074	58.30	34.98
300	T627032064	59.36	35.62	T627032074	64.02	38.41
400	T627042064	67.84	40.70	T627042074	74.20	44.52
500	T627052064	80.56	48.34	T627052074	86.92	52.15
600	T627062064	93.28	55.97	T627062074	99.64	59.78
700	T627072064	103.88	62.33	. . . . .	. . . . .	. . . . .
800	T627082064	112.36	67.42	. . . . .	. . . . .	. . . . .

T707__2044 Series (Fig. F)—4000 A surge; t_{off} = 40 μs.
T707__2054 Series (Fig. F)—4000 A surge; t_{off} = 30 μs.

100	T707012044	$ 91.16	$ 54.70	T707012054	$ 95.40	$ 57.24
200	T707022044	95.40	57.24	T707022054	99.64	59.78
300	T707032044	101.76	61.06	T707032054	108.12	64.87
400	T707042044	108.12	64.87	T707042054	114.48	68.69
500	T707052044	118.72	71.23	T707052054	125.08	75.05
600	T707062044	135.68	81.41	T707062054	144.16	86.05
700	T707072044	154.76	92.86	T707072054	161.12	96.67
800	T707082044	178.08	106.85	T707082054	184.44	110.66
900	T707092044	188.68	113.21	T707092054	199.28	119.57
1000	T707102044	207.76	124.66	T707102054	218.36	131.02
1200	T707122044	231.08	138.65	. . . . .	. . . . .	. . . . .

T707__2064 Series (Fig. F)—4000 A surge; t_{off} = 20 μs.
T707__2074 Series (Fig. F)—4000 A surge; t_{off} = 15 μs.

100	T707012064	$ 99.64	$ 59.78	T707012074	$106.00	$63.60
200	T707022064	108.12	64.87	T707022074	114.48	68.69
300	T707032064	116.60	69.96	T707032074	125.08	75.05
400	T707042064	125.08	75.05	T707042074	137.80	82.68
500	T707052064	139.92	83.95	T707052074	152.64	91.58
600	T707062064	161.12	96 67	T707062074	163.24	97.94
700	T707072064	184.44	110.66	. . . . .	. . . . .	. . . . .
800	T707082064	207.76	124.66	. . . . .	. . . . .	. . . . .

250 AMP—400 AMP rms

T627__2544 Series (Fig. D)—4500 A surge; t_{off} = 40 μs.
T627__2554 Series (Fig. D)—4500 A surge; t_{off} = 30 μs.

100	T627012544	$ 42.40	$ 25.44	T627012554	$ 46.64	$27.98
200	T627022544	50.88	30.53	T627022554	54.60	32.76
300	T627032544	57.24	34.34	T627032554	61.48	36.89
400	T627042544	65.72	39.43	T627042554	69.96	41.98
500	T627052544	74.20	44.52	T627052554	80.56	48.34
600	T627062544	86.92	52.15	T627062554	93.28	55.97
700	T627072544	97.52	58.51	T627072554	103.88	62.33
800	T627082544	106.00	63.60	T627082554	112.36	67.42
900	T627092544	125.08	75.05	T627092554	133.56	80.14
1000	T627102544	144.16	86.50	T627102554	152.64	91.58
1200	T627122544	171.72	103.03	. . . . .	. . . . .	. . . . .

T627__2564 Series (Fig. D)—4500 A surge; t_{off} = 20 μs.
T627__2574 Series (Fig. D)—4500 A surge; t_{off} = 15 μs.

100	T627012564	$ 48.76	$29.26	T627012574	$ 52.48	$31.49
200	T627022564	58.30	34.98	T627022574	61.48	36.89
300	T627032564	65.72	39.43	T627032574	67.84	40.70
400	T627042564	74.20	44.52	T627042574	80.56	48.34
500	T627052564	89.04	53.42	T627052574	91.16	54.70
600	T627062564	103.88	62.33	T627062574	106.00	63.60
700	T627072564	112.36	67.42	. . . . .	. . . . .	. . . . .
800	T627082564	122.08	75.05	. . . . .	. . . . .	. . . . .

T707__2544 Series (Fig. F)—5000 A surge; t_{off} = 40 μs.
T707__2554 Series (Fig. F)—5000 A surge; t_{off} = 30 μs.

100	T707012544	$ 95.40	$ 57.24	T707012554	$ 99.64	$ 59.78
200	T707022544	99.64	59.78	T707022554	106.00	63.60
300	T707032544	108.12	64.87	T707032554	112.36	67.42
400	T707042544	114.48	68.69	T707042554	120.84	72.50
500	T707052544	125.08	75.05	T707052554	133.56	80.14
600	T707062544	142.04	85.22	T707062554	148.40	89.04
700	T707072544	161.12	96.67	T707072554	167.48	100.49
800	T707082544	188.44	110.66	T707082554	190.80	114.48
900	T707092544	199.28	119.57	T707092554	209.88	125.93
1000	T707102544	218.36	131.02	T707102554	231.08	138.65
1200	T707122544	241.68	145.01	. . . . .	. . . . .	. . . . .

T707__2564 Series (Fig. F)—5000 A surge; t_{off} = 20 μs.
T707__2574 Series (Fig. F)—5000 A surge; t_{off} = 15 μs.

100	T707012564	$106.00	$ 63.60	T707012574	$110.24	$ 66.14
200	T707022564	112.36	67.42	T707022574	118.72	71.23
300	T707032564	120.84	72.50	T707032574	131.44	78.86
400	T707042564	133.56	80.14	T707042574	144.16	86.50
500	T707052564	146.28	87.77	T707052574	159.00	95.40
600	T707062564	167.48	100.49	T707062574	175.96	105.58
700	T707072564	190.80	114.48	. . . . .	. . . . .	. . . . .
800	T707082564	214.12	128.47	. . . . .	. . . . .	. . . . .

T727__2544 Series (Fig. G)—5500 A surge; t_{off} = 40 μs.
T727__2554 Series (Fig. G)—5500 A surge; t_{off} = 30 μs.

100	T727012544	$ 82.68	$ 49.61	T727012554	$ 86.92	$ 52.15
200	T727022544	86.92	52.15	T727022554	91.16	54.70
300	T727032544	93.28	55.97	T727032554	97.52	58.51
400	T727042544	97.52	58.51	T727042554	103.88	62.33
500	T727052544	108.12	64.87	T727052554	114.48	68.69
600	T727062544	122.96	73.78	T727062554	131.44	78.86
700	T727072544	139.92	83.95	T727072554	146.28	87.77
800	T727082544	161.12	96.67	T727082554	167.48	100.49
900	T727092544	171.72	103.03	T727092554	180.20	108.12
1000	T727102544	188.68	113.21	T727102554	199.28	119.57
1200	T727122544	209.88	125.93	. . . . .	. . . . .	. . . . .

High Power Fast Switching Thyristors continued on next page.

SEE PRECEDING PAGES FOR ILLUSTRATIONS

HIGH POWER FAST SWITCHING TRANSISTORS (CONT'D)

250 AMP—400 AMP rms (CONTINUED)

T727__2564 Series (Fig. G)—5500 A surge; $t_{off} = 20\ \mu s$.
T727__2574 Series (Fig. G)—5500 A surge; $t_{off} = 15\ \mu s$.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T727012564	$ 91.16	$ 54.70	T727012574	$ 95.40	$57.24
200	T727022564	97.52	58.51	T727022574	103.88	62.33
300	T727032564	106.00	63.60	T727032574	114.48	68.69
400	T727042564	114.48	68.69	T727042574	125.08	75.05
500	T727052564	127.20	76.32	T727052574	137.80	82.68
600	T727062564	146.28	87.77	T727062574	148.40	89.07
700	T727072564	167.48	100.49			
800	T727082564	188.68	113.21			

300 AMP—475 A rms

T707__3044 Series (Fig. F)—4000 A surge; $t_{off} = 40\ \mu s$.
T707__3054 Series (Fig. F)—4000 A surge; $t_{off} = 30\ \mu s$.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T707013044	$114.48	$ 68.69	T707013054	$129.32	$ 77.59
200	T707023044	118.72	71.23	T707023054	135.68	81.41
300	T707033044	125.08	75.05	T707033054	142.04	85.22
400	T707043044	135.68	81.41	T707043054	152.64	91.58
500	T707053044	146.28	87.77	T707053054	163.24	97.94
600	T707063044	167.48	100.49	T707063054	186.56	111.94
700	T707073044	190.80	114.48	T707073054	209.88	125.93
800	T707083044	214.12	128.47	T707083054	237.44	142.46
900	T707093044	237.44	142.46			
1000	T707103044	260.76	156.46			
1200	T707123044	303.16	181.90			

T707__3064 Series (Fig. F)—4000 A surge; $t_{off} = 20\ \mu s$.
T707__3074 Series (Fig. F)—4000 A surge; $t_{off} = 15\ \mu s$.

100	T707013064	$137.80	$ 82.68	T707013074	$142.04	$ 85.22
200	T707023064	146.28	87.77	T707023074	152.64	91.58
300	T707033064	156.88	94.13	T707033074	161.12	96.67
400	T707043064	162.18	97.31	T707043074	169.60	101.76
500	T707053064	169.60	101.76	T707053074	178.08	106.85
600	T707063064	199.28	119.57	T707063074	205.64	123.38

350 AMP—550 AMP rms

T727__3544 Series (Fig. G)—5500 A surge; $t_{off} = 40\ \mu s$.
T727__3554 Series (Fig. G)—5500 A surge; $t_{off} = 30\ \mu s$.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T727013544	$ 86.92	$ 52.15	T727013554	$ 91.16	$ 54.70
200	T727023544	91.16	54.70	T727023554	95.40	57.24
300	T727033544	97.52	58.51	T727033554	101.76	61.06
400	T727043544	103.88	62.33	T727043554	110.24	66.14
500	T727053544	114.48	68.69	T727053554	120.84	72.50
600	T727063544	129.32	77.59	T727063554	135.68	81.41
700	T727073544	146.28	87.77	T727073554	152.64	91.58
800	T727083544	167.48	100.49	T727083554	173.84	104.30
900	T727093544	180.20	108.12	T727093554	190.80	114.48
1000	T727103544	199.28	119.57	T727103554	209.88	125.93
1200	T727123544	220.48	132.29			

T727__3564 Series (Fig. G)—5500 A surge; $t_{off} = 20\ \mu s$.
T727__3574 Series (Fig. G)—5500 A surge; $t_{off} = 15\ \mu s$.

100	T727013564	$ 95.40	57.24	T727013574	$ 99.64	$59.78
200	T727023564	101.76	61.06	T727023574	108.12	64.87
300	T727033564	110.24	66.14	T727033574	118.72	71.23
400	T727043564	120.84	72.50	T727043574	131.44	78.86
500	T727053564	133.56	80.14	T727053574	144.16	86.50
600	T727063564	152.64	91.58	T727063574	159.00	95.40
700	T727073564	173.84	104.30			
800	T727083564	195.04	117.02			

450 AMP—700 AMP rms

T727__4544 Series (Fig. G)—8000 A surge; $t_{off} = 40\ \mu s$.
T727__4554 Series (Fig. G)—8000 A surge; $t_{off} = 30\ \mu s$.

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	T727014544	$103.88	$ 62.33	T727014554	$116.60	$ 69.96
200	T727024544	108.12	64.87	T727024554	122.96	73.78
300	T727034544	114.48	68.69	T727034554	129.32	77.59
400	T727044544	122.96	73.78	T727044554	137.80	82.68
500	T727054544	133.56	80.14	T727054554	148.40	89.04
600	T727064544	152.64	91.58	T727064554	169.60	101.76
700	T727074544	173.84	104.30	T727074554	190.80	114.48
800	T727084544	195.04	117.02	T727084554	216.24	129.74
900	T727094544	216.24	129.74			
1000	T727104544	237.44	142.46			

T727__4564 Series (Fig. G)—8000 A surge; $t_{off} = 20\ \mu s$.
T727__4574 Series (Fig. G)—8000 A surge; $t_{off} = 15\ \mu s$.

100	T727014564	$125.08	$ 75.05	T727014574	$129.32	$ 77.59
200	T727024564	133.56	80.14	T727024574	137.80	82.68
300	T727034564	142.04	85.22	T727034574	146.28	87.77
400	T727044564	147.34	88.40	T727044574	153.70	92.22
500	T727054564	154.76	92.86	T727054574	161.12	96.67
600	T727064564	180.20	108.12	T727064574	186.56	111.94

SILICON FAST SWITCHING RECTIFIERS

R152__10 388 Series (Fig. I)—1 A at 40° C ambient; 35 A surge; $t_{rr} = 120$ ns.
1N3879, R-R3020606 (Fig. J)—6 A at $T_C = 100°$ C; 75 A surge; $t_{rr} = 200$ ns.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	R1520010 388A	$0.65	$0.42			
100	R1520110 388B	.70	.45	1N3879, R	$ 3.00	$ 2.00
150	R1520110 388C	.73	.47	1N3880, R	3.45	2.30
200	R1520210 388D	.75	.48			
300	R1520310 388F	.85	.54	1N3881, R	4.35	2.90
400	R1520410 388H	.90	.66	1N3882, R	5.25	3.50
500	R1520510 388K	1.15	.74			
600	R1520610 388M	1.25	.80	R3020606*	18.60	12.40

*For reverse polarity, increase fourth digit by 1 (R3030606).

1N3889, R-R3020612 (Fig. J)—12 A at $T_C = 100°$ C; 150 A surge; $t_{rr} = 200$ ns.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N3889, R	$3.75	$2.50	300	1N3892, R	$ 6.75	$ 4.50
100	1N3890, R	4.35	2.90	400	1N3893, R	7.95	5.30
200	1N3891, R	5.55	3.70	600	R3020612*	21.20	14.00

*For reverse polarity, increase fourth digit by 1 (R3030612).

1N3899, R-R4020620 (Fig. K)—20 A at $T_C = 100°$ C; 225 A surge; $t_{rr} = 200$ ns.
1N3909, R-1N3913, R (Fig. K)—35 A at $T_C = 100°$ C; 300 A surge; $t_{rr} = 200$ ns.

PRV V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
50	1N3899, R	$ 5.25	$ 3.50	1N3909, R	$ 6.00	$ 4.00
100	1N3900, R	6.10	4.10	1N3910, R	7.05	4.70
200	1N3901, R	7.95	5.30	1N3911, R	9.15	6.10
300	1N3902, R	9.75	6.50	1N3912, R	11.25	7.50
400	1N3903, R	11.55	7.70	1N3913, R	13.35	8.90
600	R4020620*	22.50	18.45			

*For reverse polarity, increase fourth digit by 1 (R4030620).
Following types $t_{off} = 1.5\ \mu s$ (FJ); $t_{off} = 2\ \mu s$ (EJ); $t_{off} = 3\mu s$ (CJ).

80 AMP SERIES (FIG. L)

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	R5020108FJ*	$17.60	$11.00	R5020108EJ*	$16.50	$10.45
200	R5020208FJ*	19.80	12.10	R5020208EJ*	18.70	11.00
300	R5020308FJ*	20.90	12.65	R5020308EJ*	19.80	12.10
400	R5020408FJ*	21.45	13.20	R5020408EJ*	20.35	12.65
500	R5020508FJ*	24.20	14.30	R5020508EJ*	23.10	13.20
600	R5020608FJ*	26.40	15.40	R5020608EJ*	24.20	14.30
700	R5020708FJ*	29.70	17.60	R5020708EJ*	27.50	16.50
800	R5020808FJ*	32.45	18.70	R5020808EJ*	30.80	17.60
900	R5020908FJ*	35.20	20.90	R5020908EJ*	33.00	19.80
1000	R5021008FJ*	38.50	23.10	R5021008EJ*	36.30	22.00
1200	R5021208FJ*	44.00	26.40	R5021208EJ*	41.80	25.30

100 AMP SERIES (FIG. L)

100	R5020110FJ*	$18.59	$11.17	R5020110EJ*	$17.60	$11.00
200	R5020210FJ*	20.90	12.54	R5020210EJ*	19.80	12.10
300	R5020310FJ*	22.00	13.20	R5020310EJ*	20.90	12.65
400	R5020410FJ*	22.44	13.48	R5020410EJ*	21.45	13.20
500	R5020510FJ*	25.08	15.07	R5020510EJ*	24.20	14.30
600	R5020610FJ*	27.94	16.78	R5020610EJ*	26.40	15.40
700	R5020710FJ*	31.35	18.81	R5020710EJ*	29.70	17.60
800	R5020810FJ*	34.32	20.57	R5020810EJ*	32.45	18.70
900	R5020910FJ*	37.40	22.44	R5020910EJ*	35.20	20.90
1000	R5021010FJ*	40.70	24.42	R5021010EJ*	38.50	23.10
1200	R5021210FJ*	46.42	27.83	R5021210EJ*	44.00	26.40

200 AMP SERIES (FIG. M)

100	R6020120FJ*	$23.50	$14.20	R6020120EJ*	$21.25	$13.25
200	R6020220FJ*	26.00	15.75	R6020220EJ*	23.00	14.00
300	R6020320FJ*	29.00	17.50	R6020320EJ*	26.00	15.00
400	R6020420FJ*	32.00	19.25	R6020420EJ*	29.00	17.00
500	R6020520FJ*	35.00	21.00	R6020520EJ*	32.00	20.00
600	R6020620FJ*	38.00	23.00	R6020620EJ*	36.00	22.00
700	R6020720FJ*	41.00	24.75	R6020720EJ*	38.00	23.00
800	R6020820FJ*	44.00	26.50	R6020820EJ*	42.00	25.00
900	R6020920FJ*	47.00	28.25	R6020920EJ*	46.00	28.00
1000	R6021020FJ*	51.00	31.00	R6021020EJ*	50.00	30.00
1200	R6021220FJ*	60.00	36.00	R6021220EJ*	58.00	35.00
1400				R6021420EJ*	86.00	52.00
1600				R6021620EJ*	105.00	63.00

250 AMP SERIES (FIG. M)

Rated 250 A at $T_C = 110°$ C.

100	R6020125FJ*	$25.85	$15.62	R6020125EJ*	$23.50	$14.20
200	R6020225FJ*	28.60	17.33	R6020225EJ*	26.00	15.75
300	R6020325FJ*	31.90	19.25	R6020325EJ*	29.00	17.50
400	R6020425FJ*	35.20	21.18	R6020425EJ*	32.00	19.25
500	R6020525FJ*	38.50	23.10	R6020525EJ*	35.00	21.00
600	R6020625FJ*	41.80	25.30	R6020625EJ*	38.00	23.00
700	R6020725FJ*	45.40	27.25	R6020725EJ*	41.00	24.75
800	R6020825FJ*	48.00	28.55	R6020825EJ*	44.00	26.50
900	R6020925FJ*	51.70	31.10	R6020925EJ*	47.00	28.25
1000	R6021025FJ*	55.00	33.00	R6021025EJ*	50.00	30.00
1200	R6021225FJ*	66.00	39.60	R6021225EJ*	60.00	36.00
1400				R6021425EJ*	96.00	58.00
1600				R6021625EJ*	117.00	70.00

*For reverse polarity, increase fourth digit by 1 (R6030125FJ).

Silicon Fast Switching Rectifiers continued on next page.

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SILICON FAST SWITCHING RECTIFIERS (CONT'D)

Following types t_{off} = 1.5 μs (FJ); t_{off} = 2 μs (EJ); t_{off} = 3 μs (CJ).

350 AMP SERIES (FIG. O)

100	R6220135FJ	$20.00	$11.90	R6220135EJ	$18.00	$11.00
200	R6220235FJ	22.00	13.20	R6220235EJ	20.00	12.00
300	R6220335FJ	24.75	14.90	R6220335EJ	23.00	14.00
400	R6220435FJ	26.75	16.00	R6220435EJ	24.00	14.75
500	R6220535FJ	30.00	17.80	R6220535EJ	27.00	16.00
600	R6220635FJ	31.70	19.00	R6220635EJ	29.00	17.30
700	R6220735FJ	34.00	20.50	R6220735EJ	31.00	18.70
800	R6220835FJ	36.60	22.00	R6220835EJ	33.00	20.00
900	R6220935FJ	40.00	23.75	R6220935EJ	36.00	22.00
1000	R6221035FJ	42.60	25.50	R6221035EJ	39.00	23.20
1200	R6221235FJ	72.25	43.60	R6221235EJ	48.00	29.00
1400	.....	.....	.....	R6221435EJ	66.00	40.00
1600	.....	.....	.....	R6221635EJ	92.00	55.00

400 AMP SERIES (FIG. O)

100	R6220140FJ	$22.00	$13.20	R6220140EJ	$ 20.00	$12 00
200	R6220240FJ	24.20	14.60	R6220240EJ	22.00	13.25
300	R6220340FJ	27.50	16.50	R6220340EJ	25.00	15.00
400	R6220440FJ	29.70	17.80	R6220440EJ	27.00	16.25
500	R6220540FJ	33.00	19.80	R6220540EJ	30.00	18.00
600	R6220640FJ	35.20	21.20	R6220640EJ	32.00	19.25
700	R6220740FJ	38.00	22.80	R6220740EJ	34.50	20.75
800	R6220840FJ	40.70	24.50	R6220840EJ	37.00	22.25
900	R6220940FJ	44.00	26.40	R6220940EJ	40.00	24.00
1000	R6221040FJ	47.30	28.30	R6221040EJ	43.00	25.75
1200	R6221240FJ	58.30	35.20	R6221240EJ	53.00	32.00
1400	.....	.....	.....	R6221440EJ	73.00	44.00
1600	.....	.....	.....	R6221640EJ	102.00	61.00

600 AMP SERIES (FIG. P)

100	R7220106FJ	$ 76.00	$45.00	R7220106EJ	$ 83.60	$49.50
200	R7220206FJ	79.00	47.00	R7220206EJ	86.90	51.70
300	R7220306FJ	82.00	49.00	R7220306EJ	90.20	53.90
400	R7220406FJ	85.00	51.00	R7220406EJ	93.50	56.10
500	R7220506FJ	89.00	54.00	R7220506EJ	97.90	59.40
600	R7220606FJ	90.00	54.00	R7220606EJ	99.00	59.40
700	R7220706FJ	98.00	59.00	R7220706EJ	107.80	64.90
800	R7220806FJ	106.00	64.00	R7220806EJ	116.60	70.40
900	R7220906FJ	114.00	68.00	R7220906EJ	125.40	74.80
1000	R7221006FJ	123.00	73.00	R7221006EJ	135.30	80.30
1200	R7221206FJ	140.00	84.00	R7221206EJ	154.00	92.40

800 AMP SERIES (FIG. P)

100	R7220108FJ	$ 76.00	$45.00	R7220108EJ	$ 83.60	$49.50
200	R7220208FJ	79.00	47.00	R7220208EJ	86.90	51.70
300	R7220308FJ	82.00	49.00	R7220308EJ	90.20	53.90
400	R7220408FJ	85.00	51.00	R7220408EJ	93.50	56.10
500	R7220508FJ	89.00	54.00	R7220508EJ	97.90	59.40
600	R7220608FJ	95.00	57.00	R7220608EJ	104.50	62.70
700	R7220708FJ	103.00	62.00	R7220708EJ	113.30	68.20
800	R7220808FJ	112.00	67.00	R7220808EJ	123.20	73.70
900	R7220908FJ	120.00	72.00	R7220908EJ	132.00	79.20
1000	R7221008FJ	129.00	77.00	R7221008EJ	141.90	84.70
1200	R7221208FJ	147.00	88.00	R7221208EJ	161.70	96.80

*For reverse polarity, increase fourth digit by 1 (R7030103FJ).
‡Types t_{off} = 2 μs (EJ) t_{off} = 3 μs (CJ); t_{off} = 5 μs (AJ)

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SILICON HIGH POWER RECTIFIERS

1N3288A, R–1N3297A, R (Fig. L)—100 A at 130° C; 2300 A surge.
1N4587, R–1N4596, R (Fig. L)—150 A at 110° C; 3000 A surge.
JAN1N3289, JAN1N3291, JAN1N3293, JAN1N3294, JAN1N3295 are also available; prices on request.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
100	1N3288A, R	$14.30	$ 8.58	1N4587, R	$15.95	$ 9.57
200	1N3289A, R	15.95	9.57	1N4588, R	17.60	10.56
300	1N3290A, R	17.05	10.23	1N4589, R	18.70	11.22
400	1N3291A, R	18.15	10.89	1N4590, R	20.02	11.99
500	1N3292A, R	19.25	11.55	1N4591, R	21.34	12.82
600	1N3293A, R	20.35	12.21	1N4592, R	23.65	14.19
800	1N3294A, R	23.10	13.86	1N4593, R	27.50	16.50
1000	1N3295A, R	25.30	15.18	1N4594, R	30.80	18.48
1200	1N3296A, R	27.50	16.50	1N4595, R	33.00	19.80
1400	1N3297A, R	33.00	19.80	1N4596, R	42.35	25.41

1N3260, R–1N3276, R (Fig. M)—160 A at 125° C; 2000 A surge.
R600__20 Series (Fig. M)—200 A; 5500 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
50	1N3260, R	$16.50	$ 9.90	.....	.....	.....
100	1N3261, R	17.05	10.23	R6100120†	$ 15.50	$ 9.30
150	1N3262, R	18.15	10.84	.....	.....	.....
200	1N3263*, R	18.70	11.22	R6100220†	17.00	10.20
250	1N3264, R	19.80	11.88	.....	.....	.....
300	1N3265, R	20.90	12.54	R6100320†	19.00	11.40
350	1N3266, R	22.55	13.53	.....	.....	.....
400	1N3267*, R	23.65	14.19	R6100420†	21.50	12.80
500	1N3268, R	25.30	15.18	R6100520	23.00	13.80
600	1N3269*, R	27.50	16.50	R6100620	25.00	15.00
700	1N3270, R	29.70	17.82	R6100720	27.00	16.40
800	1N3271*, R	31.35	18.81	R6100820	28.50	17.10
900	1N3272, R	34.10	20.46	R6101020	31.00	18.60
1000	1N3273*, R	36.30	22.00	.....	33.00	19.80
1200	1N3274, R	44.00	26.40	R6001220†	40.00	24.00
1400	1N3275, R	51.70	31.02	R6001420†	47.00	28.10
1600	1N3276, R	59.40	35.64	R6001620†	54.00	32.40
1800	.....	.....	.....	R6001820†	64.00	38.40
2000	.....	.....	.....	R6002020†	74.00	44.40
2200	.....	.....	.....	R6002220†	87.00	52.20
2400	.....	.....	.....	R6002420†	100.00	60.00

*JAN type available. †For reverse polarity, increase fourth digit by 1 (R6010120).

1N3161, R–1N3174, R (Fig. M)—240 A at 125° C; 3000 A surge.
1N3735, R–1N3744, R (Fig. M)—250 A at 130° C; 4500 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	W-H Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
50	1N3161, R	$18.70	$11.22	.....	.....	.....
100	1N3162, R	19.25	11.55	1N3735, R	$19.80	$11.88
150	1N3163, R	20.35	12.32	.....	.....	.....
200	1N3164*, R	21.45	12.87	1N3736, R	22.00	13.20
250	1N3165, R	22.55	13.53	.....	.....	.....
300	1N3166, R	24.20	14.74	1N3737, R	24.75	14.85
350	1N3167, R	25.85	15.62	.....	.....	.....
400	1N3168*, R	26.95	16.17	1N3738, R	27.50	16.50
500	1N3169, R	28.60	17.16	1N3739, R	29.70	18.04
600	1N3170*, R	30.80	18.48	1N3740, R	31.90	19.14
700	1N3171, R	33.00	19.80	.....	.....	.....
800	1N3172*, R	36.30	21.78	1N3741, R	36.85	22.11
900	1N3173, R	38.50	23.10	.....	.....	.....
1000	1N3174*, R	40.70	24.42	1N3742, R	41.80	25.08
1200	.....	.....	.....	1N3743, R	46.20	27.72
1400	.....	.....	.....	1N3744, R	53.90	32.34

*JAN type available.

1N2054, R–1N2068, R (Fig. M)—250 A at 135° C; 4500 A surge.
R600__25 Series (Fig. M)—250 A; 6000 A surge.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
50	1N2054, R	$19.25	$11.55	.....	.....	.....
100	1N2055, R	19.80	11.88	R6100125*	$ 17.50	$10.50
150	1N2056, R	20.90	12.54	.....	.....	.....
200	1N2057, R	22.00	13.20	R6100225*	19.50	11.70
250	1N2058, R	23.10	13.86	.....	.....	.....
300	1N2059, R	24.75	14.85	R6100325*	22.00	13.40
350	1N2060, R	26.40	15.84	.....	.....	.....
400	1N2061, R	27.50	16.50	R6100425*	24.50	14.70
450	1N2062, R	28.60	17.16	.....	.....	.....
500	1N2063, R	29.70	18.04	R6100525	26.00	15.60
600	1N2064, R	31.90	19.14	R6100625	28.00	16.90
700	1N2065, R	34.10	20.46	R6100725	30.00	18.00
800	1N2066, R	36.85	22.11	R6100825	33.00	19.80
900	1N2067, R	39.60	23.76	R6100925	35.00	21.00
1000	1N2068, R	41.80	25.08	R6101025	37.00	22.10
1200	.....	.....	.....	R6001225*	44.00	26.40
1400	.....	.....	.....	R6001425*	55.00	33.00
1600	.....	.....	.....	R6001625*	72.00	43.20
1800	.....	.....	.....	R6001825*	88.00	52.70
2000	.....	.....	.....	R6002025*	102.00	61.20
2200	.....	.....	.....	R6002225*	120.00	72.00
2400	.....	.....	.....	R6002425*	140.00	84.00

*For reverse polarity, increase fourth digit by 1 (R6010125).

SILICON HIGH POWER RECTIFIERS
CONTINUED ON NEXT PAGE

SEE PRECEDING PAGES FOR ILLUSTRATIONS

SILICON HIGH POWER RECTIFIERS (CONTINUED)

1N4044, R–1N4056, R (Fig. M)—275 A at 125° C; 5000 A surge.
R600__30 Series (Fig. M)—300 A at 120° C; 6500 A surge.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
50	1N4044, R	$19.80	$11.88			
100	1N4045, R	20.90	12.54	R6100130	$20.00	$12.00
150	1N4046, R	22.00	13.20			
200	1N4047, R	23.10	13.86	R6100230	22.50	13.50
250	1N4048, R	24.75	14.85			
300	1N4049, R	25.85	15.51	R6100330	25.00	15.00
400	1N4050, R	29.15	17.49	R6100430	28.00	16.80
500	1N4051, R	31.35	18.81	R6100530	32.00	19.20
600	1N4052, R	33.55	20.46	R6100630	36.50	21.90
700	1N4053, R	36.30	21.78	R6100730	37.50	22.50
800	1N4054, R	38.50	23.10	R6100830	40.00	24.00
900	1N4055, R	41.80	25.08	R6100930	42.00	25.10
1000	1N4056, R	44.00	26.40	R6101030	45.00	27.00
1200				R6001230*	49.00	29.40

*For reverse polarity, increase fourth digit by 1 (R6010130).

R620__30 Series (Fig. O), R700__03 Series (Fig. N)—300 A.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	R6200130	$14.30	$ 9.00	R7000103*	$ 44.00	$ 26.40
200	R6200230	16.50	9.75	R7000203*	44.00	26.40
300	R6200330	18.70	11.00	R7000303*	44.00	26.40
400	R6200430	20.90	12.65	R7000403*	44.00	26.40
500	R6200530	23.10	14.30	R7000503*	51.70	30.80
600	R6200630	25.30	15.40	R7000603*	55.00	33.00
700	R6200730	27.50	16.50	R7000703*	58.30	35.20
800	R6200830	29.70	17.60	R7000803*	61.60	37.40
900	R6200930	31.90	19.25	R7000903*	70.40	41.80
1000	R6201030	34.10	20.90	R7001003*	79.20	47.30
1200	R6201230	37.40	22.00	R7001203*	86.90	51.70
1400	R6201430	48.40	28.60	R7001403*	96.25	57.20
1600	R6201630	59.40	35.64	R7001603*	110.00	66.00
1800	R6201830	70.40	42.24	R7001803*	129.80	78.10
2000	R6202030	81.40	48.84	R7002003*	154.00	92.40
2200				R7002203*	195.80	117.70
2400				R7002403*	211.20	126.50
2600				R7002603*	237.60	143.00
2800				R7002803*	254.10	152.90
3000				R7003003*	268.40	160.60

*For reverse polarity, increase fourth digit by 1 (R7010103).

R700__04 Series (Fig. N)—400 A. For reverse polarity, increase fourth digit by 1 (R701__04).

PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99	PRV V	W-H Type	Net Ea., Lots 1-9	Net Ea., Lots 10-99
100	R7000104	$44.00	$26.40	900	R7000904	$73.70	$44.00
200	R7000204	46.20	27.50	1000	R7001004	82.50	49.50
300	R7000304	48.40	28.60	1200	R7001204	93.50	56.10
400	R7000404	51.70	30.80	1400	R7001404	110.00	66.00
500	R7000504	55.00	33.00	1600	R7001604	123.20	73.70
600	R7000604	58.30	35.20	1800	R7001804	140.80	84.70
700	R7000704	61.60	37.40	2000	R7002004	162.80	97.90
800	R7000804	64.90	38.50				

R620__50 Series (Fig. O)—500 A at 125° C; 6000 A surge.
R700__05 Series (Fig. N)—500 A. For reverse polarity, increase fourth digit by 1 (R701__05).

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	R6200150	$17.60	$10.00	R7000105	$44.00	$26.40
200	R6200250	19.80	12.00	R7000205	49.50	29.70
300	R6200350	22.00	13.20	R7000305	50.60	30.80
400	R6200450	24.20	14.30	R7000405	55.00	33.00
500	R6200550	26.40	15.40	R7000505	58.30	35.20
600	R6200650	28.60	17.60	R7000605	61.60	37.40
700	R6200750	30.80	18.70	R7000705	64.90	38.50
800	R6200850	33.00	19.80	R7000805	68.20	40.70
900	R6200950	35.20	20.90	R7000905	77.00	46.20
1000	R6201050	39.60	24.20	R7001005	85.80	51.70
1200	R6201250	44.00	26.40	R7001205	96.80	58.30

R720__05 Series (Fig. P)—500 A; 6000 A surge.
R720__08 Series (Fig. P)—800 A; 8500 A surge.

100	R7200106	$ 40.00	$ 24.00	R7200109	$ 40.00	$24.00
200	R7200206	40.00	24.00	R7200209	42.00	25.00
300	R7200306	40.00	24.00	R7200309	44.00	26.00
400	R7200406	40.00	24.00	R7200409	47.00	28.00
500	R7200506	47.00	28.00	R7200509	50.00	30.00
600	R7200606	50.00	30.00	R7200609	53.00	32.00
700	R7200706	53.00	32.00	R7200709	56.00	34.00
800	R7200806	56.00	34.00	R7200809	59.00	35.00
900	R7200906	64.00	38.00	R7200909	67.00	40.00
1000	R7201006	72.00	43.00	R7201009	75.00	45.00
1200	R7201206	79.00	47.00	R7201209	85.00	51.00
1400	R7201406	87.50	52.00	R7201409	100.00	60.00
1600	R7201606	100.00	60.00	R7201609	112.00	67.00
1800	R7201806	118.00	71.00	R7201809	128.00	77.00
2000	R7202006	140.00	84.00	R7202009	148.00	89.00
2200	R7202206	178.00	107.00			
2400	R7202406	192.00	115.00			
2600	R7202606	216.00	130.00			
2800	R7202806	231.00	139.00			
3000	R7203006	244.00	146.00			

R720__10 Series (Fig. P)—1000 A; 10,000 A surge.
R920__11 Series (Fig. R)—1100 A avg. at 115° C.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	R7200112	$40.00	$24.00	R9200111	$104.00	$ 62.00
200	R7200212	45.00	27.00	R9200211	112.00	67.00
300	R7200312	46.00	28.00	R9200311	120.00	72.00
400	R7200412	50.00	30.00	R9200411	128.00	77.00
500	R7200512	53.00	32.00	R9200511	136.00	82.00
600	R7200612	56.00	34.00	R9200611	146.00	87.00
700	R7200712	59.00	35.00	R9200711	163.00	98.00
800	R7200812	62.00	37.00	R9200811	178.00	107.00
900	R7200912	70.00	42.00	R9200911	194.00	117.00
1000	R7201012	78.00	47.00	R9201011	209.00	126.00
1200	R7201212	88.00	53.00	R9201211	228.00	137.00
1400				R9201411	240.00	144.00
1600				R9201611	250.00	150.00
1800				R9201811	270.00	162.00
2000				R9202011	290.00	174.00
2200				R9202211	330.00	190.00
2400				R9202411	370.00	220.00
2600				R9202611	410.00	246.00
2800				R9202811	450.00	270.00
3000				R9203011	490.00	294.00

R920__16 Series (Fig. R)—1600 A avg. at 110° C.
R920__20 Series (Fig. R)—2000 A avg. at 95° C.

PRV V	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99	W-H Type	Net Each, Lots 1-9	Net Each, Lots 10-99
100	R9200116	$115.00	$ 69.00	R9200120	$120.00	$ 72.00
200	R9200216	123.00	74.00	R9200220	150.00	90.00
300	R9200316	131.00	79.00	R9200320	175.00	105.00
400	R9200416	140.00	84.00	R9200420	185.00	111.00
500	R9200516	150.00	90.00	R9200520	200.00	120.00
600	R9200616	162.00	97.25	R9200620	210.00	126.00
700	R9200716	172.00	103.00	R9200720	220.00	132.00
800	R9200816	182.00	109.00	R9200820	240.00	144.00
900	R9200916	192.00	115.00	R9200920	260.00	156.00
1000	R9201016	210.00	126.00	R9201020	280.00	168.00
1200	R9201216	230.00	138.00	R9201220	300.00	180.00
1400	R9201416	260.00	156.00			
1600	R9201616	280.00	168.00			
1800	R9201816	300.00	180.00			
2000	R9202016	320.00	192.00			

SILICON MEDIUM POWER RECTIFIERS

Suffix **R** indicates reverse polarity types available; same price.

1N1612, R–1N4459, R (Fig. J)—5 A at 150° C; 150 A surge.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N1612, R	$1.18	$0.79	600	1N1616, R	$ 5.90	$3.94
100	1N1613, R	1.36	.91	800	1N4458, R	9.90	6.60
200	1N1614, R	2.09	1.40	1000	1N4459, R	11.00	7.43
400	1N1615, R	4.08	2.73				

1N1341A, R–1N3990, R (Fig. J)—6 A at 150° C; 150 A surge.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N1341A, R	$1.24	$0.83	500	1N1347A, R	$ 5.12	$3.41
100	1N1342A, R	1.41	.94	600	1N1348A, R	6.03	4.02
150	1N1343A, R	1.80	1.20	700	1N3987, R	8.42	5.67
200	1N1344A, R	2.37	1.57	800	1N3988, R	9.46	6.33
300	1N1345A, R	3.36	2.24	900	1N3989, R	10.23	6.82
400	1N1346A, R	4.36	2.90	1000	1N3990, R	10.73	7.15

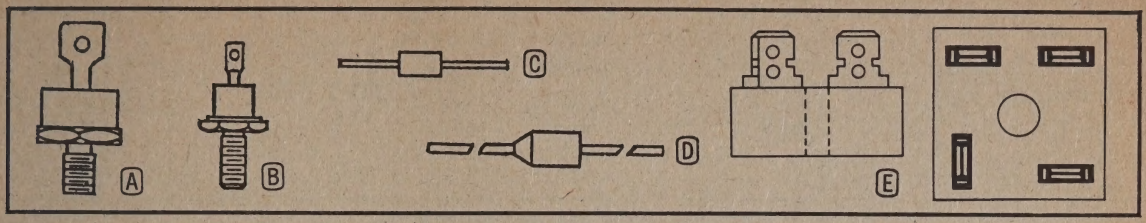
1N1341B, R–1N1348B, R (Fig. J)—6 A at 150° C; 160 A surge.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N1341B, R	$1.32	$0.88	300	1N1345B, R	$3.52	$2.37
100	1N1342B, R	1.49	.99	400	1N1346B, R	4.62	3.08
150	1N1343B, R	2.09	1.49	500	1N1347B, R	5.50	3.69
200	1N1344B, R	2.48	1.65	600	1N1348B, R	6.66	4.46

1N1199A, R–1N3673A, R (Fig. J)—12 A at 150° C; 240 A surge.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N1199A, R	$1.38	$0.91	500	1N1205A, R	$ 5.86	$3.91
100	1N1200A, R	1.55	1.03	600	1N1206A, R	6.81	4.54
150	1N1201A, R	2.00	1.33	700	1N3670A, R	8.67	5.78
200	1N1202A, R	2.73	1.82	800	1N3671A, R	9.66	6.44
300	1N1203A, R	3.82	2.54	900	1N3672A, R	10.40	6.93
400	1N1204A, R	4.91	3.27	1000	1N3673A, R	10.89	7.26

SILICON MEDIUM POWER TRANSISTORS
CONTINUED ON NEXT PAGE



SILICON MEDIUM POWER RECTIFIERS (CONTINUED)

Suffix **R** indicates reverse polarity types available; same price.

1N1199B, R–1N1206B, R (Fig. B)—12 A at 150° C; 240 A surge.
R310—15 Series (Fig. B)—15 A at 125° C; 240 A surge.

PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N1199B, R	$1.43	$0.99	R3100015	$1.38	$0.91
100	1N1200B, R	1.65	1.10	R3100115	1.55	1.03
150	1N1201B, R	2.09	1.43	R3100215	2.73	1.82
200	1N1202B, R	2.86	1.87	R3100315	3.82	2.54
300	1N1203B, R	3.96	2.64	R3100415	4.91	3.27
400	1N1204B, R	5.39	3.63	R3100515	5.86	3.91
500	1N1205B, R	6.44	4.29	R3100615	6.81	4.54
600	1N1206B, R	7.48	5.01			

1N3208–1N3214 (Fig. A)—15 A at 150° C; 250 A surge.
1N3615, R–1N3624, R (Fig. B)—16 A at 150° C; 300 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
50	1N3208	$1.90	$1.27	1N3615, R	$ 1.52	$ 1.03
100	1N3209	1.95	1.30	1N3616, R	1.69	1.16
150				1N3617, R	2.18	1.52
200	1N3210	2.00	1.33	1N3618, R	3.33	2.24
300	1N3211	2.75	1.76	1N3619, R	4.84	3.33
400	1N3212	3.19	2.12	1N3620, R	6.05	3.99
500	1N3213	3.88	2.59	1N3621, R	6.96	4.54
600	1N3214	4.62	3.08	1N3622, R	8.47	5.45
800				1N3623, R	11.48	8.49
1000				1N3624, R	16.26	12.05

1N248A, R–1N250C, R (Fig. A)—20 A at 150° C; 350 A surge.
1N1191A, R–R4100822 (Fig. A)—22 A at 150° C; 500 A surge.

PRV V	W-H Type	Net Ea., Lots 1-24	Net Ea., Lots 25-99	PRV V	W-H Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
50	1N1191A, R	$ 1.82	$1.21	50	1N248A, R	$1.65	$1.10
100	1N1192A, R	1.90	1.27	50	1N248B, R	1.65	1.10
150	1N1193A, R	2.31	1.54	50	1N248C, R	1.65	1.10
200	1N1194A, R	2.73	1.82	100	1N249A, R	1.73	1.15
300	1N1195A, R	4.27	2.85	100	1N249B, R	1.73	1.15
400	1N1196A, R	5.34	3.63	100	1N249C, R	2.03	1.35
500	1N1197A, R	6.77	4.36	200	1N250A, R	2.48	1.65
600	1N1198A, R	7.32	4.90	200	1N250B, R	2.48	1.65
800	R4100822*	8.80	6.33	200	1N250C, R	2.78	1.85
1000	R4101022*	11.28	7.21				

*For reverse polarity, increase fourth digit by **1** (R4110822).

1N2154, R–1N2160, R (Fig. B)—25 A at 145° C; 300 A surge.

PRV V	W-H Type	Net Ea., Lots 1-24	Net Ea., Lots 25-99	PRV V	W-H Type	Net Ea., Lots 1-24	Net Ea., Lots 25-99
50	1N2154, R	$2.62	$1.75	400	1N2158, R	$6.51	$4.35
100	1N2155, R	3.30	2.20	500	1N2159, R	6.77	4.51
200	1N2156, R	4.82	3.27	600	1N2160, R	6.93	4.62
300	1N2157, R	5.78	3.85				

1N1183, R–1N3768, R (Fig. B)—35 A at 140° C; 500 A surge.

50	1N1183, R	$2.35	$1.57	500	1N1189, R	$ 8.16	$5.45
100	1N1184, R	2.72	1.82	600	1N1190, R	9.52	6.38
150	1N1185, R	3.41	2.28	700	1N3765, R	10.01	6.77
200	1N1186, R	3.91	2.61	800	1N3766, R	10.73	7.15
300	1N1187, R	5.45	3.63	900	1N3767, R	11.79	7.87
400	1N1188, R	6.81	4.54	1000	1N3768, R	12.78	8.49

1N1183A, R–R4101040 (Fig. B)—40 A at 150° C; 800 A surge.
1N4001–1N4007 (Fig. C)—Epoxy encapsulated; 1.0 A at 75° C ambient; 30 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999	W-H Type	Net Ea., Lots of 1-24	Net Ea., Lots of 25-99
50	1N1183A, R	$ 2.35	$1 57	1N4001	$0.30	$0.24
100	1N1184A, R	2.72	1.82	1N4002	.34	.26
150	1N1185A, R	3.41	2.28			
200	1N1186A, R	3.91	2.61	1N4003	.41	.32
300	1N1187A, R	5.45	3.63			
400	1N1188A, R	6.81	4.54	1N4004	.49	.39
500	1N1189A, R	8.16	5.45			
600	1N1190A, R	9.52	6.38	1N4005	.71	.50
800	R4100840*	10.73	7.15	1N4006	.89	.59
1000	R4101040*	12.78	8.49	1N4007	.99	.66

*For reverse polarity, increase fourth digit by **1** (R4110840).

SILICON LOW POWER RECTIFIERS

1N4816–1N5054 (Fig. D)—Epoxy encapsulated; 1.5 A at 40° C; 50 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-24	Net Ea., Lots of 25-99	PRV V	W-H Type	Net Ea., Lots of 1-24	Net Ea., Lots of 25-99
50	1N4816	$0.30	$0.25	500	1N4821	$0.55	$0.46
100	1N4817	.34	.30	600	1N4822	.61	.52
200	1N4818	.41	.34	700	1N5052	.83	.56
300	1N4819	.47	.38	800	1N5053	.89	.59
400	1N4820	.49	.42	1000	1N5054	.99	.68

1N5391–1N5399 (Fig. C)—Epoxy encapsulated; 1.5 A at 40° C ambient; 50 A surge.

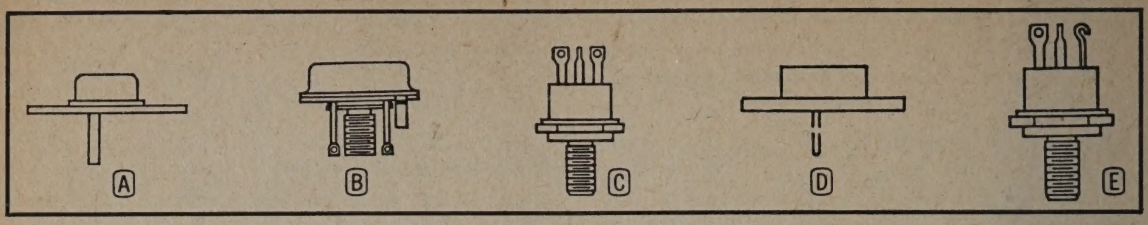
1N5400–1N5408 (Fig. D)—Epoxy encapsulated; 3 A at 50° C ambient; 200 A surge.

PRV V	W-H Type	Net Ea., Lots of 1-24	Net Ea., Lots of 25-99	W-H Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
50	1N5391	$0.30	$0.25	1N5400	$0.40	$0.34
100	1N5392	.34	.30	1N5401	.45	.37
200	1N5393	.41	.34	1N5402	.52	.44
300	1N5394	.47	.38	1N5403	.61	.47
400	1N5395	.49	.42	1N5404	.67	.56
500	1N5396	.55	.46	1N5405	.72	.63
600	1N5397	.61	.52	1N5406	.81	.72
800	1N5398	.89	.59	1N5407	1.25	1.10
1000	1N5399	.99	.68	1N5408	1.65	1.38

MODULAR ASSEMBLIES (FIG. E)

PRV V	W-H Type	A	Net Eac 1-24	Net Eac 25-99
50	MB11A02V05	2	$ 1.50	$1.10
100	MB11A02V10		1.60	1.25
200	MB11A02V20		1.65	1.30
300	MB11A02V30		1.70	1.40
400	MB11A02V40		1.75	1.50
500				
600	MB11A02V60		2.00	1.75
800	MB11A02V80		3.00	2.50
1000	MB11A02W10		4.00	3.25
50	MB12A10V05	10	3.15	2.75
100	MB12A10V10		3.60	3.15
200	MB12A10V20		4.00	3.50
300	MB12A10V30		4.25	3.75
400	MB12A10V40		4.50	4.00
600	MB12A10V60		5.50	4.50
800	MB12A10V80		7.75	6.00
1000	MB12A10W10		10.00	7.50
50	MB12A25V05	25A	4.00	3.20
100	MB12A25V10		4.25	3.60
200	MB12A25V20		4.50	4.00
300	MB12A25V30		4.75	4.25
400	MB12A25V40		5.00	4.50
600	MB12A25V60		6.00	5.00
800	MB12A25V80		9.00	7.00
1000	MB12A25W10		12.00	9.00

ALL RECTIFIERS ARE SUPPLIED WITH STANDARD NONINSULATING MOUNTING HARDWARE. INSULATING HARDWARE KITS ARE AVAILABLE ON REQUEST AT AN ADDITIONAL CHARGE



GENERAL PURPOSE TRANSISTORS

1571 Series (Fig. A)—I_C = 4 A; f_T = 1.0 MHz typ.

V_{CE} V	h_{FE} = 25; I_C = 4 A			h_{FE} = 20; I_C = 3 A		
	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
40	1571-0425	$1.00	$0.75	.....	.....	.....
60	2N305	1.07	.78	.....	.....	.....
140	.....	.....	.....	2N3441	$2.48	$1.80

151 Series and 152 Series (Fig. B)—Rated 6 A. I_C = 1.5 A; h_{FE} = 11 min. (152 Series, 18 min.) f_T = 500 kHz typ. V_{EB} = 25 V. T_J = −65° C to +150° C. P_D = 100 W at 80° C case.

V_{CE} V	W-H Type	Net Ea., Lots of 1-9	10-49	W-H Type	Net Ea., Lots of 1-9	10-49
40	151-04	$24.20	$21.78	152-04	$26.25	$23.63
60	151-06	25.68	23.11	152-06	27.80	25.02
80	151-08	27.20	24.48	152-08	29.48	26.53
100	151-10	28.83	25.94	152-10	31.25	28.13
120	151-12	30.58	27.52	152-12	33.13	29.18
140	151-14	32.40	29.16	152-14	35.10	31.59
160	151-16	34.35	30.92	152-16	37.23	33.50
180	151-18	36.40	32.76	152-18	39.45	35.51
200	151-20	38.58	34.72	152-20	41.83	37.64

153 Series (Fig. C)—Rated 7.5 amps. I_C = 1.5 A; h_{FE} = 15 min. f_T = 500 kHz typ. T_J = −65° C to +175° C. P_D = 200 W at 25° C case.

V_{CE} V	W-H Type	Net Ea., Lots 1-9	10-49	V_{CE} V	W-H Type	Net Ea., Lo 1-9	10-4
40	153-04	$30.30	$27.27	120	153-12	$38.25	$34.43
60	153-06	32.13	28.91	140	153-14	40.55	36.50
80	153-08	34.05	30.65	160	153-16	42.98	38.68
100	153-10	36.08	32.47	180	153-18	45.55	41.00

1561-0403–2N3442 (Fig. D)—h_{FE} = 20 at I_C = 3 A; I_C = 15 A; f_T = 1 MHz typ.
1561-0404–1561-1404 (Fig. D)—Same except h_{FE} = 20 at I_C = 4 A.

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
40	1561-0403	$1.00	$0.81	1561-0404	$1.05	$0.85
60	2N3232	1.03	.84	1561-0604	1.32	1.00
60	.....	.....	.....	2N3055	1.42	1.05
80	.....	.....	.....	1561-0804	1.67	1.30
120	2N4347	3.15	2.45	2N4348	4.13	3.00
140	2N3442	4.54	3.30	.....	.....	.....

163 Series (Fig. E)—h_{FE} = 15 min. at I_C = 5 A; I_C = 20 A; f_T = 500 kHz typ.
164 Series (Fig. E)—Same ratings except h_{FE} = 25 min.

40	163-04	$38.38	$34.54	164-04	$41.85	$37.67
60	163-06	40.68	36.61	164-06	44.38	39.94
80	163-08	43.13	38.81	164-08	47.03	42.32
100	163-10	45.70	41.13	164-10	49.85	44.87
120	163-12	48.45	43.61	164-12	52.85	47.57
140	163-14	51.35	46.22	164-14	56.03	50.42
160	163-16	54.43	48.98	164-16	59.38	53.44
180	163-18	57.70	51.93	164-18	62.95	56.66
200	163-20	61.15	55.04	164-20	66.73	60.05

1561-0408–2N3773 (Fig. D)—h_{FE} = 15 at I_C = 8 A; f_T = 1 MHz typ.; I_C = 30 A.

V_{CE} V	W-H Type	Net Ea., Lots 1-99	100-999	V_{CE} V	W-H Type	Net Ea., Lots 1-99	100-999
40	1561-0408	$1.52	$1.10	100	1561-1008	$5.40	$3.85
80	2N3238	3.17	2.03	120	1561-1208	6.50	4.75
				140	2N3773	7.43	5.20

1561-0410–1561-1410 (Fig. D)—h_{FE} = 15 at I_C = 10 A; f_T = 1 MHz typ.; I_C = 30 A.
2N3771 (Fig. D)—Same except h_{FE} = 15 at I_C = 15 A.

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	W-H Type	Net Ea., Lots of 1-99	100-999
40	1561-0410	$3.00	$2.18	2N3771	$3.30	$2.42
60	1561-0610	3.20	2.32	.....	.....	.....
60	2N3772	3.30	2.42	.....	.....	.....
80	1561-0810	3.60	2.72	.....	.....	.....
100	1561-1010	6.00	4.50	.....	.....	.....
120	1561-1210	7.00	5.35	.....	.....	.....
140	1561-1410	9.00	7.00	.....	.....	.....

MILITARY TRANSISTORS

7.5 AMP

2N1015–2N1015D (Fig. B)—$V_{CE(SAT)}$ = 1.5 V max.; f_T = 0.5 MHz typical.
2N1016–2N1016D (Fig. B)—$V_{CE(SAT)}$ = 2.5 V max.; f_T = 0.5 MHz typical.

V_{CE} Volts	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
30	2N1015	$19.24	$17.49	2N1016	$20.53	$18.66
50	2N1015A	24.37	22.15	2N1016A	25.65	23.32
100	2N1015B	30.78	27.98	2N1016B	33.81	30.74
150	2N1015C	41.04	37.31	2N1016C	41.39	37.63
200	2N1015D	58.30	53.00	2N1016D	65.30	59.36

2N3429–2N3432 (Fig. C)—Same ratings as 2N1016 Series except $V_{CE(SAT)}$ = 1 V max.

V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999	V_{CE} V	W-H Type	Net Ea., Lots of 1-99	100-999
50	2N3429	$33.28	$26.50	150	2N3431	$60.42	$45.16
100	2N3430	44.52	34.13	200	2N3432	79.18	59.36

10 AMPS HIGH GAIN

2N2226–2N2229 (Fig. B)—h_{FE} = 100 min. at 10 A; f_T = 500 kHz typical.
2N2230–2N2233 (Fig. B)—Same except h_{FE} = 400 min. at 10 A.

V_{CE} Volts	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
50	2N2226	$ 51.62	$32.86	2N2230	$ 85.86	$ 56.18
100	2N2227	71.39	48.76	2N2231	115.54	77.38
150	2N2228	97.52	64.66	2N2232	144.69	101.76
200	2N2229	142.04	86.92	2N2233	211.47	159.00

2N3470–2N3473 (Fig. E)—h_{FE} = 100 min. at 10 A; f_T = 500 kHz typical.
2N3474–2N3477 (Fig. E)—Same except h_{FE} = 400 min. at 10 A.

V_{CE} Volts	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
50	2N3470	$ 51.94	$ 37.10	2N3474	$ 85.44	$ 61.69
100	2N3471	73.14	51.94	2N3475	116.18	81.09
150	2N3472	97.52	79.50	2N3476	161.23	146.28
200	2N3473	148.40	129.32	2N3477	212.00	186.56

30 AMPS

2N2757–2N2760 (Fig. E)—h_{FE} = 10 min. at I_C = 10 A; f_T = 500 kHz typical.
2N2763–2N2766 (Fig. E)—Same except h_{FE} at I_C = 15 A.
2N2769–2N2772 (Fig. E)—Same except h_{FE} at I_C = 20 A.
2N2775–2N2778 (Fig. E)—Same except h_{FE} at I_C = 25 A.

V_{CE} Volts	W-H Type	Net Ea., Lots of 1-24	25-99	W-H Type	Net Ea., Lots of 1-24	25-99
50	2N2757	$ 60.42	$ 50.88	2N2769	$ 73.14	$ 63.60
100	2N2758	66.25	56.71	2N2770	95.40	79.50
150	2N2759	99.64	84.16	2N2771	120.84	102.82
200	2N2760	128.26	107.06	2N2772	155.82	139.28
50	2N2763	66.04	54.38	2N2775	85.86	72.08
100	2N2764	86.28	71.55	2N2776	108.12	96.46
150	2N2765	120.84	91.16	2N2777	143.74	128.26
200	2N2766	139.92	116.60	2N2778	175.96	160.06

OUR SEMICONDUCTOR STOCK IS MAINTAINED CONSTANTLY TO ASSURE IMMEDIATE ACCESS OF ALL THE LATEST DEVICES. FOR NEW OR UNLISTED ITEMS, WRITE OR CALL OUR EXPERTS FOR QUOTATIONS.

SERIES 490 KING SIZE HEAT SINKS (FIG. H)

Natural convection sinks for multi-cell high power rectifiers. Model 490-12.0, under natural convection conditions, will permit a case temperature rise of a 3½" sq. rectifier of only 110° C at 600 W dissipation. Full curves for all types available on request. Aluminum alloy 6063T5 per QQ-A-200; black anodize finish per MIL-A-8625 Type II except for the semiconductor mounting surface where the electrical stud and high current buswork connections are made. Four mounting lugs on each end with std. ⅜" dia. bolts, nuts and washers; or, use Type 109 mounting brackets (glass fiber reinforced plastic angles) for wall mounting or insulating (two required per sink), not supplied. Size, 6.75" w. x 9.25" d. x 3.5" h., 490-3.5; 6" h., 490-6.0; 12" h., 490-12.0. All have 3½" semiconductor mounting area. For square slots add **$0.10**/piece. Part No. letter suffix indicates mounting hole type; see *Ordering Information below.

Wakefield Number	Net Each, Lots of 1-24	Net Each, Lots of 25-49	Wakefield Number	Net Each, Lots of 1-24	Net Each, Lots of 25-49
490-3.5-K	$13.82	$12.02	490-6.0-W, Y, Z	$20.84	$18.12
490-3.5-W, Y, Z	13.28	11.55	490-12.0-K	37.33	32.46
490-6.0-K	21.77	18.93	490-12.0-W, Y, Z	36.70	31.91

Wakefield No. 109 Mounting Bracket—Used with Series 490 heat sinks. Insulation strength, 5000 volts. Size, 7.50" w. x 1.5" d. x 1.5" h. Mtg. centers spaced 6". Net Each, Lots of: 1–99 ..... **$1.72**; 100–499 ..... **$1.48**

SERIES 500 COPPERCOOL FORCED CONVECTION COOLERS

For critical designs requiring maximum performance under medium air pressure. Take semiconductors of any mounting style. Hose adapters and top covers available; prices on request. **501 (Fig. I):** Thermal resistance 0.5° C/watt at 32 CFM; 1¾" w. x 2¼" d. x 1¾" h. **502:** Similar to (Fig. I) except has set of fins on each side of semiconductor. Thermal resistance 0.3° C/watt at 26 CFM; 3½" w. x 1¾" d. x 1¾" h. **503:** Larger version of 502. Thermal resistance 0.3° C/watt at 15 CFM; 3½" w. x 3½" d. x 1¾" h. **504 (Fig. J):** Thermal resistance 0.3° C/watt at 40 CFM; 1¾" sq. x 1¾" h. **505:** Same as 504, but fins extend full width of mounting surface. Thermal resistance 0.3° C/watt at 21 CFM; 1¾" w. x 2" d. x 1¾" h. Base and fins are copper with black ebonol C finish. Part No. letter suffix indicates mounting hole type; see *Ordering Information below for other mounting types available—prices on request.

Wakefield Number	Net Each, Lots of 1-4	Net Each, Lots of 5-9	Net Each, Lots of 10-24	Wakefield Number	Net Each, Lots of 1-4	Net Each, Lots of 5-9	Net Each, Lots of 10-24
501-K	$ 9.61	$ 8.89	$ 8.11	504-K	$ 8.69	$ 7.96	$ 7.33
502-K	14.96	13.60	12.47	505-K	12.25	11.40	10.39
503-K	26.42	24.36	22.43				

SERIES 600 CIRCUIT BOARD COOLERS

Low profile, flat surface coolers for printed circuit and externally mounted uses. Available for TO-8 and other transistor case styles and sizes to 1⅛" O.D. **601 (Fig. K):** For TO-8 transistors; temp. rise 89° C at 10 watts; 1.25" w. x 2.00" d. x 0.56" h. **603 (Fig. K):** Same, but temp. rise 83° C at 12 watts; 2.00" w. x 2.00" d. x 0.56" h. **621 (Fig. L):** For semis to 1.335" O.D.; temp. rise, 84° C at 18 watts; 1.50" w. x 4.75" d. x 0.46" h. **623 (Fig. L):** Same, but temp. rise, 72° C at 23 watts; 3.00" w. x 4.75" d. x 0.46" h. **641 (Fig. L):** For semis to 1.335" O.D.; temp. rise, 50° C at 23 watts; 3" w. x 4.12" d. x 1" h. Aluminum alloy with black anodize finish. For square slots to accept Type 104 insulators, add suffix **S** to number and **$0.10**/piece. Part No. letter suffix indicates mounting hole type; see *Ordering Information below for other mounting types available—prices on request.

Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
601-K	$1.26	$1.01	$0.80	$0.68	$0.60	623-A, K	$2.26	$1.81	$1.45	$1.26	$1.09
603-K	1.43	1.14	.95	.80	.68	641-A, K	2.35	1.88	1.51	1.27	1.11
621-A, K	1.53	1.22	.97	.82	.73						

SERIES 680 CIRCUIT BOARD HEAT SINKS (FIG. M)

Optimum natural convection cooling per unit volume above the circuit board. Free circulation of air from any direction. High thermal conductivity aluminum alloy, black anodized. Accepts all popular transistors. **Temp. Rise:** 680-.5, 90° C at 10 watts; 680-.75, 90° C at 13 watts; 680-1.0, 90° C at 15 watts; 680-1.25, 100° C at 21 watts. **Size:** Base 1.81" sq. with mtg. centers 1.50", all units. Transistor mtg. area 1.31" dia., min. all units. Height, .50", 680-.5; .75", 680-.75; 1", 680-1.0; 1.25", 680-1.25. Part No. letter suffix indicates mounting hole type; see *Ordering Information below.

Wakefield Number	Net Each, Lots of 1-49	50-99	100-499	Wakefield Number	Net Each, Lots of 1-49	50-99	100-499
680-.5A, B, G1, K	$1.17	$1.12	$0.96	680-1.0A, B, G1, D	$1.33	$1.23	$1.07
680-.75A, B, G1, K	1.23	1.17	1.00	680-1.25A, B, G1, K	1.38	1.30	1.10

★ORDERING INFORMATION

SUFFIX LETTERS FOR MOUNTING TYPES

Parts as listed are standard; deviations are special and will require tooling and set-up charges.

Wakefield No.	Standard Suffix	Wakefield No.	Standard Suffix
301*, 302, 303	K, L*, M*, N*, R	486, 489	K
310	K, J, W	490	K, W, Y, Z
401, 403, 413, 421	A, B	501, 502, 503	A, B
423	A, B	504, 505	K, L, M, N, P, Q, X
431, 433	J, K	601, 603	E, F, K
441	G, K	621, 623, 641	A, K, V
465	J, K	680	A, B, K, G1
476	K, W		

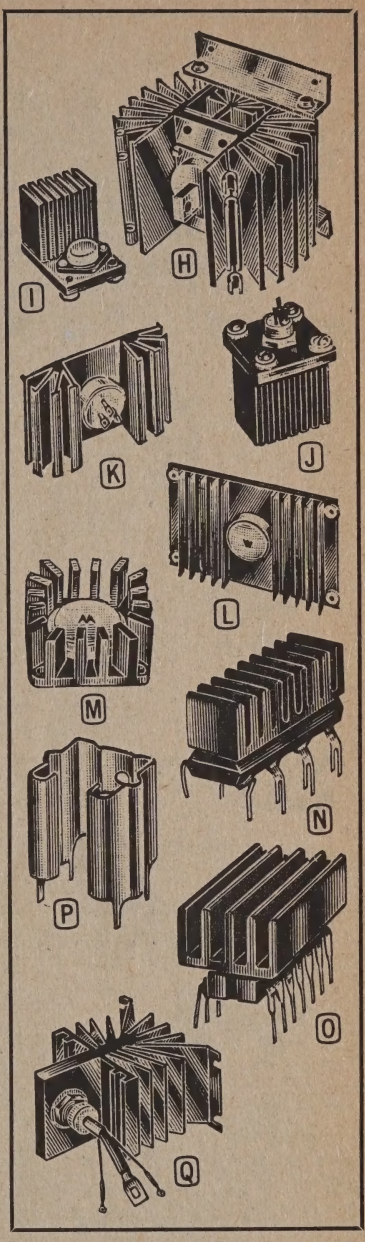
*301 available single-end L, M and N only.

Final Suffix S: When ordering heat sinks to accommodate Types 104 or 106 insulators, the suffix **S** is added to the heat sink number. Wider, square bottomed slots required for these two insulators are positioned further from the ends of the sinks.

MOUNTING SPECIFICATIONS

Locations of mounting groups on coolers to be within ½2" of true position. Hole diameters **E** through **Y** not free of anodize on series 500; **R** (ream) free of anodize.

Suffix	Mtg. Hole	Suffix	Mtg. Hole	Suffix	Mtg. Hole
A	TO-3	J	0.520"	V	TO-3
B	TO-36	K	Blank	W	0.765"
E	0.200"	L	8-32 x ½"	X	5/16-24
F	0.270"	M	10-32 x ⅝"	Y	1.030"
G	0.330"	N	¼-28 x ⅝"	Z	0.765"
H	0.390"	R	0.4975"	G1, H1	TO-66



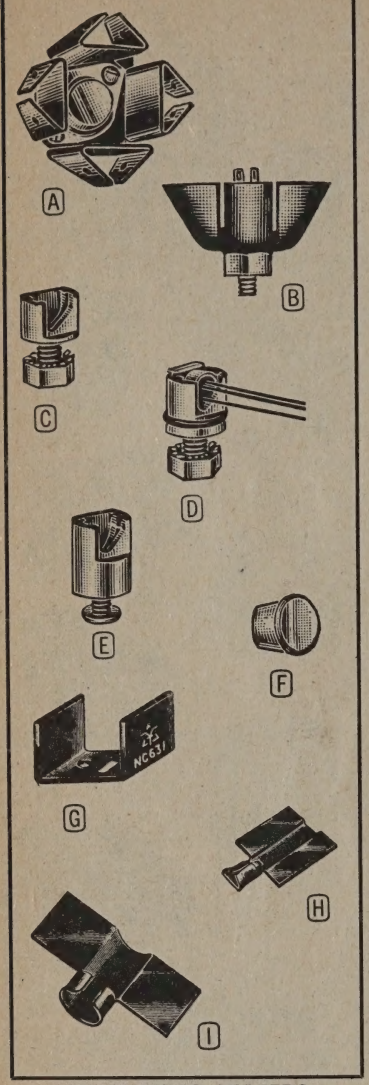
HEAT SINKS

Heat sinks for DIP and PC boards. **Type 650:** Bonded with Delta Bond epoxy for DIP. Size, .250" w. x .744" l. x .240" h. **Type 651:** Heat sink for DIP enables user to select extruded fins perpendicular to Type 650 fins to take advantage of air flow direction. Size, .415" w. x .75" l. x 24" h. **Type 295:** Solderable heat sink for PC boards. Tinned aluminum legs (.04" w. x .03" thick) plug-in .050" PC board holes for automatic soldering. **Type 310:** Extruded aluminum heat sink to provide installation in NEMA cabinets. Available in 3.0", 5.5" and 11.5" lengths with 11.5" size for mounting 1, 2, or 3 SCR's.

Wakefield Type	Fig.	Min. Order	Net, per 100 200-900	Net, per 100 1000-2400
650-B*	N	100	$25.80	$22.20
651-B*	O	100	27.00	22.90
295-1	P	100	17.80§	15.16**
310-3.0K	Q	1	5.36†	4.56‡

*Black anodize; change B to **G** for gold irridite; prices on request. Net Each: †1–24. ‡25–49; §500–900; **1000–4900.

WAKEFIELD ENGINEERING INC. Semiconductor Coolers



TYPE 690 CIRCUIT BOARD HEAT SINKS (FIG. A)

Designed to give the most power dissipation per unit cost. Power dissipation of 10–20 watts is obtainable. Made of highest thermally conductive pure aluminum, 1100 alloy. Available in both plain (suffix **P**) and black anodize (suffix **B**) finish. Available mounting patterns are for TO-3 and TO-66 JEDEC packages.

Wakefield Number	Fits Case	Size, In. W. x H.	Net per Pkg. of 100		
			1-199	200-900	1000-2400
690-3-P	TO-3	1.81 x 1.25	$34.00	$30.00	$28.00
690-66-P	TO-66	1.81 x 1.25	34.00	30.00	28.00
690-3-B	TO-3	1.81 x 1.25	46.00	38.00	34.00
690-66-B	TO-66	1.81 x 1.25	46.00	38.00	34.00

TYPE 695 CIRCUIT BOARD HEAT SINKS (FIG. B)

Made of thermally conductive pure aluminum, 1100 alloy. Available in black anodize (suffix **B**) or plain (suffix **P**) finish. Designed to accept semiconductors with threaded studs up to 10-32. Power dissipation up to 5 watts is obtainable for low power stud devices.

Wakefield Number	Fits Case	Size, In. W. x H.	Net per Pkg. of 100		
			1-199	200-900	1000-2400
695-P	DO-4	1.33 x .484	$17.10	$13.70	$12.80
695-B	DO-4	1.33 x .484	25.40	20.30	18.90

SERIES 254 THERMAL RETAINERS FOR TO-5 CASES

Designed as thermal links from TO-5 semiconductor case to cooler or chassis member acting as heat sink. Provides heat sink contact at bottom of case flange for best cooling. Ideal for use with TO-5 Kovar header case. All six types include 254-LS stainless steel locking spring for insertion behind transistor, using Type 120 thermal compound at header. Made of Zamak 3, with chromate conversion finish. Type 254-S1 has built-in electrical isolation, with stud mount of 6061-T6 aluminum with gold irridite finish. Supplied less mounting hardware.

Wakefield Number	Fig.	Mounting	Thermal Resistance	Net per Pkg. of 10		
				10-90	100-240	250-490
254-S	C	Stud	4.0° C/W	$2.96	$2.54	$2.36
254-S1	D	Stud*	6.0° C/W	2.96	2.54	2.36
254-T	E	Tapped hole	5.3° C/W	4.35	3.73	3.45
254-P	F	Plain	4.0° C/W	.89	.77	.71
254-D	F	Plain†	4.0° C/W	3.21	2.77	2.56

*With electrical isolation. †4-40 tapped thru center of base.

SERIES 630 HEAT SINKS FOR TO-3 AND TO-66 (FIG. G)

Maximum cooling heat sinks for TO-3 and TO-66. Available in 3 types utilizing same base size but three leg lengths. Type 1100-H14 aluminum 0.062″ thick. Black anodize (suffix **B**) or plain (suffix **P**) finish. Full curves on request.

Wakefield Number		Temp. Rise °C/5 W	Height, In.	Net per Pkg. of 100		
TO-3	TO-66			1-199	200-900	1000-2400
631-3-B	631-66-B	68	1.0	$19.50	$15.60	$13.60
631-3-P	631-66-P	68	1.0	8.80	7.00	5.90
632-3-B	632-66-B	57	2.0	22.90	18.30	16.00
632-3-P	632-66-P	57	2.0	12.40	9.90	8.40
633-3-B	633-66-B	45	3.0	26.50	21.20	18.30
633-3-P	633-66-P	45	3.0	15.90	12.70	11.00

TYPE 292 HEAT SINKS (FIG. H)

Accommodates most TO-92 plastic transistors for heat dissipation. Aluminum (type 6061T6) with black anodize finish (suffix **AB**) or no finish (suffix **AP**); beryllium copper with black ebonol finish (suffix **CB**) or no finish (suffix **CP**).

Wakefield Number	Net per Pkg. of 100				Wakefield Number	Net per Pkg. of 100			
	1-499	500-900	1000-4900	5000-9900		1-499	500-900	1000-4900	5000-9900
292-AB	$10.83	$8.66	$7.21	$5.78	292-CB	$11.15	$8.92	$7.49	$5.96
292-AP	2.76	2.21	1.89	1.49	292-CP	8.03	6.42	5.37	4.31

TYPE 296 HEAT SINKS (FIG. I)

Snaps onto TO-5 transistors. Finishes same as Type 292, above. Wing height, ¼″, 296-1; ½″, 296-2; ¾″, 296-3; 1″, 296-4.

Wakefield Number	Net per Pkg. of 100				Wakefield Number	Net per Pkg. of 100			
	1-499	500-900	1000-4900	5000-9900		1-499	500-900	1000-4900	5000-9900
296-1-AB	$ 7.23	$ 5.78	$ 4.86	$ 3.85	296-3-AB	$10.01	$ 8.01	$ 6.67	$ 5.37
296-1-AP	3.25	2.60	2.14	1.76	296-3-AP	3.99	3.19	2.60	2.07
296-1-CB	17.09	13.67	11.24	9.12	296-3-CB	30.74	24.59	20.51	16.43
296-1-CP	14.93	11.94	9.99	7.93	296-3-CP	27.43	21.94	18.39	14.60
296-2-AB	7.69	6.15	5.11	4.11	296-4-AB	10.34	8.27	6.88	5.51
296-2-AP	3.59	2.87	2.40	1.94	296-4-AP	4.24	3.39	2.74	2.27
296-2-CB	23.83	19.06	15.89	12.67	296-4-CB	38.30	30.64	25.37	20.38
296-2-CP	21.18	16.94	14.13	11.29	296-4-CP	34.01	27.21	22.60	18.08

INSULATING WAFERS FOR TO-3 AND TO-66

Aluminum alloy per 5052-H38 with Delta Coate 151H (suffix **DC**) or hard coat (suffix **HC**). Thermal conductive coating on transistor side only, including edges, hole I.D.

Wakefield Number	Net per Pkg. of 10		
	10-90	100-490	500-990
170-, 171-, 172-DC	$0.86	$0.74	$0.70
170-, 171-, 172-HC	1.06	.92	.85

EPOXY RESINS, HARDENERS AND ADHESIVES

MIXING PROPORTIONS AND WORKING TIME

Hdnr. No.	Net Wt./ Btl. Lbs.	Parts Hardener per 100 Parts Resin			Wkg. Time Hours
		151	152,153	154	
A4	.30	.....	7.5	10.5	.75
B4	.14	.....	3.5	5.0	.50
C4	.18	.....	4.5	6.5	4.0
D4	.92	.....	23.0	33.0	24.0
H3	.12	4	.....	.....	4.0

Delta Coate 151: Thermally conductive dielectric epoxy coating which may be applied using conventional paint spraying equipment. A .006″ coating yields 1000 V working dielectric strength for applications such as electrically isolating semiconductors from their heat sinks. **Delta Bond 152:** Contains no volatile solvents and is therefore 100% solid adhesive. Effective on porous and non-porous surfaces such as metals, glass, ceramics and most plastics. **Delta Cast 153:** Pourable casting resin for encapsulating components and assemblies. Thermal expansion is similar to aluminum and copper and assemblies will operate over a very wide temperature range. **Delta Bond 154:** Medium viscosity aluminum filled resin with the best thermal conductivity of this series. Not recommended for use as an electrical insulator nor conductor; principal application is that of a good thermal-mechanical adhesive for applications such as bonding fins to base plates or semiconductor mounting blocks or brackets to heat sinks. Machines freely. **Hardeners:** Available as listed for use with resins. Working time, cure time and properties of cured resins vary. For additional data request Catalog No. 103.

Resin No.	Size Can	Hardener Req'd	Net Ea., Lots 1-9	Net Ea., Lots 10-24	Resin No.	Size Can	Hardener Req'd	Net Ea., Lots 1-9	Net Ea., Lots 10-24	Hardener No.	Net Ea., Lots 1-9	Net Ea., Lots 10-24	Hardener No.	Net Ea., Lots 1-9	Net Ea., Lots 10-24
151-Q	Qt.	H3	$21.24	$19.16	153-Q	Qt.	A4, B4	$15.52	$13.94	A4	$6.13	$5.72	D4	$10.35	$7.92
152-Q	Qt.	A4, B4,	15.52	13.94	153-G	Gal.	C4, D4	55.30	53.09	B4	3.97	2.99	H3	3.75	2.83
152-G	Gal.	C4, D4	55.30	53.09	154-Q	Qt.		12.87	11.51	C4	5.09	3.47			

SERIES 130 PRESS-PAK HEAT SINKS AND CLAMPS (FIG. A)

Standard single heat sinks for use with Type 130 clamps; multiple heat sinks available, data and prices on request. T-slots accept standard hex head machine bolts for mounting and busing. Only one sink of a given pair should be bolted to rigid busing. Aluminum alloy 6063T5 with black anodize (suffix **B**) or gold irridite (suffix **G**) finish. Natural and forced convection data available on request. Size, 5″ w. x 4½″ d., except 133-4.5, 7″ w. x 4½″ d. and 133-7.5, 7″ w. x 7½″ d.

Wakefield Number	Ht., In.	Net Each, Lots of 1-9	10-24	25-49	Wakefield Number	Ht., In.	Net Each, Lots of 1-9	10-24	25-49
131-4.5-B	1⅛	$3.16	$3.00	$2.87	132F-4.5-B	3¼	$ 5.11	$4.41	$4.21
131-4.5-G	1⅛	2.31	2.18	2.10	132F-4.5-G	3¼	3.37	3.18	3.05
131F-4.5-B	2	3.04	2.88	2.75	133-4.5-B	3⅛	6.48	6.16	5.89
131F-4.5-G	2	2.18	2.06	1.99	133-4.5-G	3⅛	5.70	5.42	5.19
132-4.5-B	2¼	3.80	3.60	3.43	133-7.5-B	3⅛	10.42	9.89	9.47
132-4.5-G	2¼	3.04	2.88	2.75	133-7.5-G	3⅛	9.22	8.75	8.38

SERIES 130 CLAMP AND SPRING ASSEMBLIES

Fit all Press-Pak SCR sizes up to 2.25″ dia. Affords clamping force centering accuracy of less than 10% of junction diameter with Series 130 heat sinks, above.

STUD ASSEMBLIES

Crossbar is CRS, 3.8″ lg. x 1 3/16″ w. x ½″ thick. Stainless steel studs spaced 2¾″. Assembly is coated with epoxy insulating compound for 5 kVAC breakdown min.

Wakefield No.	Clearance*	Net Each, Lots of 1-9	10-24	25-49	Wakefield No.	Clearance*	Net Each, Lots of 1-9	10-24	25-49
130-A	1.74–2.12	$3.97	$3.34	$2.90	130-H	3.91–4.29	$4.30	$3.61	$3.15
130-B	2.05–2.43	3.97	3.34	2.90	130-J	4.22–4.60	4.30	3.61	3.15
130-C	2.36–2.74	3.97	3.34	2.90	130-K	4.53–4.91	4.53	3.81	3.31
130-D	2.67–3.05	4.19	3.54	3.06	130-L	4.84–5.22	4.53	3.81	3.31
130-E	2.98–3.36	4.19	3.54	3.06	130-M	5.15–5.53	4.53	3.81	3.31
130-F	3.29–3.67	4.19	3.54	3.06	130-N	5.46–5.84	4.82	4.06	3.90
130-G	3.60–3.98	4.30	3.61	3.15	130-P	5.77–6.15	4.82	4.06	3.90

*Min.–max., stud bar to top of clamp; includes spring assembly height.

SPRING ASSEMBLIES

Each leaf provides up to 400 lbs. clamping force; integral force indicator reads lbs./leaf in 100-lb. graduations (available without indicator). Stainless steel alloy has low creepage rate (less than 15% in 5 years at 400 lbs./leaf at 150° C operating); better than the best automotive valve-spring steels. Swivel pad is 2024 aluminum.

Wakefield No.	Leaves No.	Leaves H.	Net Each, Lots of 1-9	10-24	25-49	Wakefield No.	Leaves No.	Leaves H.	Net Each, Lots of 1-9	10-24	25-49
130-2	2	.50″	$3.82	$3.23	$2.79	130-4	4	.72″	$4.83	$4.13	$3.41
130-3	3	.61″	4.25	3.59	3.09	130-5	5	.83″	5.06	4.28	3.71

*For unit without indicator, deduct 25c.

SERIES 260 CUP CLIPS FOR TO-5 AND TO-18 CASE

Brass base per QQB626a Comp. 22, black ebonol C finish per MIL-F-495. Cups are beryllium copper alloy #10 per MIL-C-81021, black ebonol C finish per MIL-F-495. Ceramic spacers are beryllium oxide, 99% purity, 95% density. Flared lip standard for easy component insertion. **Plain Mounting Base Types (Fig. B):** Can solder into place or used with pan head screws (#4 for TO-5; #2 for TO-18); 260-P5B and 260-P18B are for mounting with thermally conductive adhesive such as Delta Bond 152. **Tapped Base Types (Similar Fig. B):** Use 4-40 screw for TO-5; 2-56 for TO-18; 260-4TH5B and 260-2TL18 have thick base for wider screw length tolerances. **Stud Mounting Types (Figs. C and D):** Have 6-32 or 10-32 studs for TO-5 case; 4-40 and 6-32 for TO-18. Operate continuously between −100° F to +300° F. **Suffix B** (e.g., 260-P5**B**)**:** Beryllium oxide insulated for operations requiring low stray capacity to heat. Hypot rating 1000 VAC, 60 Hz for TO-5; 750 VAC, 60 Hz for TO-18. Color coded white. **Suffix E:** Epoxy insulated; color coded yellow. Hypot rating, 500 VAC, 60 Hz for TO-5; 250 VAC, 60 Hz for TO-18. **No Suffix:** Indicates non-insulated. **Size:** 0.29″ I.D. cup, hex base .37″ across flats for TO-5; .170″ I.D. with .25″ hex for TO-18.

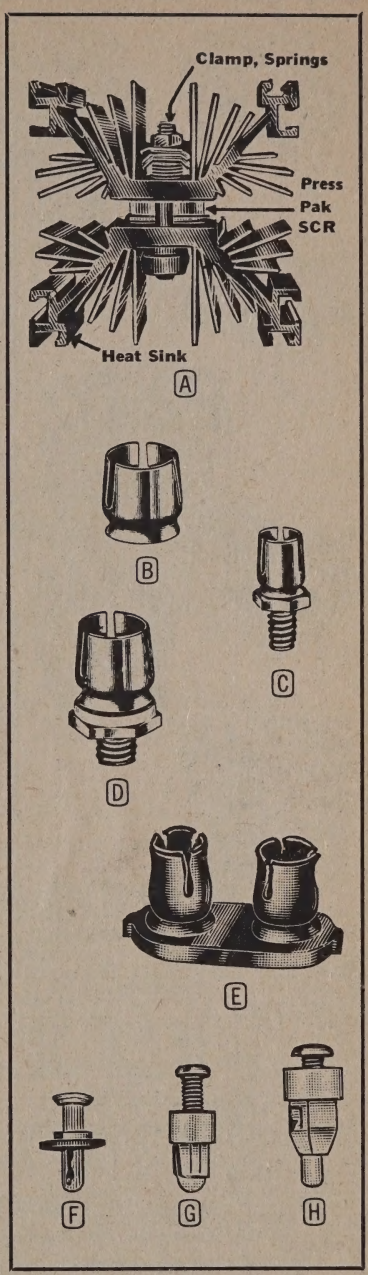
Wakefield Number	Fig.	Typical Case-to-Sink Thermal Resistance, °C/W	Hole or Thread Size	Net per Pkg. of 10 1-19	20-40	50-90
260-P5	B	12*	.112″ diameter	$ 3.34	$ 2.67	$ 2.31
260-P5B	B	16*	.185″ diameter	10.73	8.58	7.38
260-4T5	B	12*	4-40 fem., chamfer	6.33	5.06	4.37
260-4T5E	B	14*	4-40 fem., chamfer	7.98	6.38	5.47
260-4TH5B	B	16*	4-40 female	14.85	11.88	10.26
260-4TH5E	B	14*	4-40 female	7.98	6.38	5.47
260-6SH5	C	12*	6-32 stud	9.01	7.21	6.26
260-6SH5B	C	16*	6-32 stud	14.85	11.88	10.26
260-6SH5E	C	14*	6-32 stud	11.36	9.09	7.82
260-10SH5	D	12*	10-32 stud	7.05	5.64	4.88
260-10SH5B	D	16*	10-32 stud	14.85	11.88	10.26
260-10SH5E	D	14*	10-32 stud	9.01	7.21	6.26
260-P18	B	22.5†	.089″ diameter	3.34	2.67	2.31
260-P18B	B	27.5†	.128″ diameter	10.73	8.58	7.38
260-2T18	B	22.5†	2-56 female	7.05	5.64	4.88
260-2TH18	B	22.5†	2-56 female	7.05	5.64	4.88
260-2TH18B	B	27.5†	2-56 female	15.50	12.40	10.81
260-2TH18E	B	25.0†	2-56 female	9.01	7.21	6.26
260-2TL18E	B	25.0†	2-56 female	7.98	6.38	5.47
260-4SH18	C	22.5†	4-40 stud	7.05	5.64	4.88
260-4SH18B	C	27.5†	4-40 stud	14.85	11.88	10.26
260-4SH18E	C	25.0†	4-40 stud	9.01	7.21	6.26
260-6SH18	D	22.5†	6-32 stud	7.05	5.64	4.88
260-6SH18B	D	27.5†	6-32 stud	14.85	11.88	10.26
260-6SH18E	D	25.0†	6-32 stud	9.01	7.21	6.26

*With #30 copper-constantan thermocouple soldered to center of header of RCA 2N3053.
†With #30 copper-constantan thermocouple soldered to emitter-tab of Sprague 2N2907A.

SERIES 100 "BLIND" NYLON INSULATING FASTENERS

Type 102 (Fig. F): Fastener-washer pair quickly mounts and electrically isolates most of the Series 400 and 600 heat sinks. Size, 7/16″ O.D. x 1/16″ thick; for panel hole .187″ dia. and .063″ max. panel thickness. **Type 104 (Fig. G):** Screw mount with #8 sheet metal or machine screw; screw length, 5/8″ plug panel thickness. **Type 106 (Fig. H):** Larger screw mount type; screw length, ¾″ plus panel thickness.

Wakefield Number	Fig.	Hypot Kilovolts	Shoulder Dia.	Net per Pkg. of 100 1-499	500-900	1000-4900
102	F	1.5	3/8″	$4.34	$3.62	$3.42
104	G	3	7/8″	3.64	3.03	2.79
106	H	3	½″	5.99	4.99	4.59

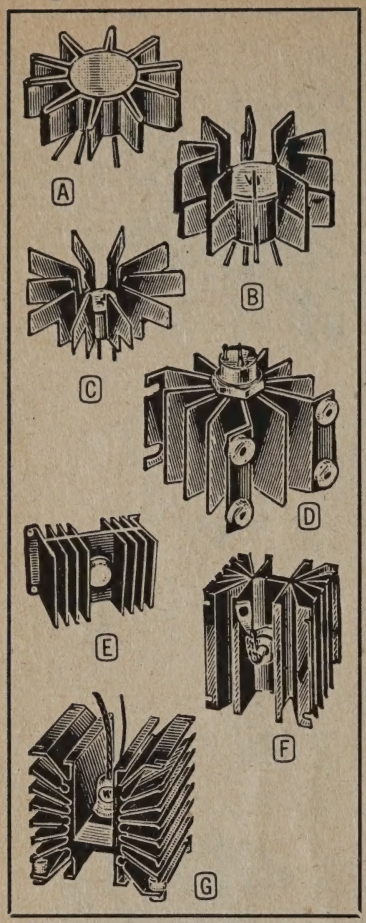


SERIES 260 THERMAL RETAINERS (FIG. E)

Two cup clips are bonded with Delta Bond 152 to an aluminum base precoated with Delta Coate 151H. This provides a thermal equalizing link with excellent thermal dissipation characteristics. Clips are electrically insulated from the strip and each other. Cup clip beryllium copper with black ebonol C finish; base aluminum 1100-H14 clear irridite and Delta Coate 151 finish. **260-5D:** Thermal resistance from TO-5 cup clip to mounting base is 13° C/watt and from cup to cup is 30° C/watt. **260-18D:** Thermal resistance from TO-18 cup clip to mounting base is 24° C/watt and cup to cup is 60° C/watt.

Wakefield Number	Net per Pkg. of 10 1-19	20-40	50-90
260-5D	$15.88	$12.70	$11.02
260-18D	15.88	12.70	11.02

Semiconductor Coolers



THERMAL JOINT COMPOUND

Used between semiconductor and heat-sink; or for thermoelectric modules.

Wakefield No.	Size	Net Each, Lots of 1-9	10-24	25-49
120-S	4 gm	$ 0.45*	$ 0.37*	$0.31*
120-2	2 oz.	2.35	2.21	1.94
120-5	5 oz.	3.86	3.56	3.22
120-8	8 oz.	6.31	5.91	5.21
120-80	5 lb.	29.95	29.27	.....

*Net Each, Lots 1-99, 100-499, 500-999.

VERTICAL MOUNTING ADAPTERS

Meet MIL-STD-202. Cond. B for vibration. Two required per sink. For insulation, use Teflon insulator 103, below.

No. 111—For 401 or 403.
Net Each, 1-99... **$0.24**; 100-499... **$0.19**

No. 113—For 421 or 423.
Net Each, 1-99... **$0.34**; 100-499... **$0.29**

TEFLON® INSULATORS

Type 105 accepts #10 mtg. hardware; all others, 6-32. ®DuPont TM

Type No.	For Sink Model Number	No. Req'd	Hypot kV*
101	501	3	0.5
	502, 503, 504, 505	4	
103	301	2	1.5
	401	3	
	302, 303, 403, 413, 421, 423, 431, 433, 621, 623, 641	4	1.5
105	441, 451, 465, 476, 486, 489	4	5.0
107	Same as 103		5.0

*At 60 Hz.

Wakefield Number	Net per Pkg. of 100 1-499	500-900	1000-4900
101	$18.64	$15.53	$14.51
103	7.28	6.07	5.78
105	28.57	23.81	22.22
107	28.57	23.81	22.22

SERIES 200 FEATHERWEIGHT DISSIPATORS

Unique fin design permits horizontal or vertical orientation with excellent natural convection performance in either position. In forced convection applications, the axis of the semiconductor may be oriented either perpendicular or parallel to the direction of air flow. Max. contact thermal impedance for the semiconductor case to the dissipator I.D. is 5° C/W for 201, 202, 203 and 222, 3° C/W for 204, 205, 207, 209 and 224, 2° C/W for 211, 213 and 215. Delta-T No. 120 thermal joint compound will reduce impedance by a factor of 8. Beryllium copper per MIL-C-81021 with black ebonol C finish per MIL-F-495; also available with no finish, prices on request.

Wakefield Model 160 Installation Tool—For 201, 202, 203, 204, 205, 207, 208, 209, 222 and 224. Net Each..... **$1.50**

Wakefield Model 161 Installation Tool—For 211, 213 and 215. Net Each..... **1.50**

Wakefield Number	Fig.	Fits Case Dia., In.	Fits JEDEC Case Styles	Size, Inches I.D.	O.D.	H.	Net per Pkg. of 100 1-199	200-400	500-900
201-CB*	A	.161/.240	TO-18, 24, 28, 40, 44	.150	.640	.187	$22.86	$19.05	$17.25
202-CB	A			.150	.490	.187	20.11	16.76	15.19
203-CB*	B			.150	.640	.375	32.76	27.30	24.70
206-CB*	B			.165	.510	.375	32.76	27.30	24.70
204-CB*	A	.275/.370	TO-5, 9, 11, 12, 16, 26, 29, 33, 39, 42, 43, 45	.255	.550	.187	20.11	16.76	15.19
205-CB*	A			.255	.720	.187	22.86	19.05	17.25
207-CB*	B			.255	.720	.375	32.76	27.30	24.70
208-CB*	B			.280	.580	.375	32.76	27.30	24.70
209-CB*	C			.255	1.280	.720	36.12	30.10	27.56
211-CB*	A	.440/.544	TO-8, 38, 48,	.420	.830	.187	32.76	27.30	24.70
213-CB*	B			.420	.830	.375	35.39	29.49	26.69
215-CB*	C			.420	1.400	.830	35.39	29.49	26.69
222-CB	A	.165/.240	2—TO-18, 24, 28	.150	.640	.380	31.86	26.55	24.07
224-CB	A	.275/.370	2—TO-5, 9, 11, 12, 16, 29, 33, 39, 42, 43, 45	.255	.720	.440	36.12	30.10	27.56

*Also available in aluminum alloy 6061T6 with or without black anodize finish; prices on request.

SERIES 300 SEMICONDUCTOR COOLERS (FIG. D)

Accommodate stud-mounted, press-fitted rectifiers and transistors up to 1⅛" hex case. Semiconductor mounting surface and one mounting foot are free of anodize to assure excellent thermal and electrical performance. Ideal for stacking arrangement; electrical isolation provided by Type 103 insulators or Type 104 expansion nuts (not supplied). Temperature Rise at 23 Watts: Type 301, 100° C; 302, 72° C; 303, 52° C. Full curves on request. Aluminum alloy 6063-T5 per QQ-A-200; black anodize finish per MIL-A-8625 Type II. Size 2" sq. x ¾" h., 301; 1½" h., 302 and 3" h., 303. Part No. letter suffix indicates mounting hole type; see *Ordering Information on following page.

Wakefield Number*	Net Each, Lots of 1-24	25-49	50-99	Wakefield Number*	Net Each, Lots of 1-24	25-49	50-99
301K	$1.68	$1.34	$1.10	302R	$2.68	$2.14	$1.73
301L, M, N	2.03	1.62	1.41	303K	2.35	1.88	1.49
301R	2.03	1.62	1.41	303L, M, N†	3.11	2.49	2.02
302K	2.03	1.62	1.41	303R	3.11	2.49	2.02
302L, M, N†	2.68	2.14	1.73				

*For square slots to accept insulators add suffix **S** to number and **$0.10** per piece any quantity. †Add **$0.12** per piece for LL, MM, or NN (tapped both ends) any quantity.

SERIES 400 NATURAL CONVECTION HEAT SINKS (FIG. E)

Aluminum alloy 6063T5 per QQ-A-200; black anodize finish per MIL-A-8625, Type II. All Series 400 are available with square slots for mounting Type 104 or 106 insulators. To order, add suffix **S** to number and **$0.10**/piece any quantity. Part No. letter suffix indicates mounting hole type; see *Ordering Information on following page.

401: Unexcelled for natural convection where space is critical. Thermal resistance below 0.5° C/W at moderate air flow. Size, 1.5" x 4.812". **403:** Thermal resistance 1.8° C/W at medium power levels; adequate cooling in all but the most stringent applications. Size, 3.0" x 4.812".

Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249	Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249
401-A, K	$1.75	$1.38	$1.10	$0.92	403-A, K	$2.57	$2.02	$1.62	$1.34
401-(*)	2.08	1.64	1.31	1.09	403-(*)	2.90	2.28	1.81	1.49

423: Thermal resistance 0.8° C/W at higher power levels. Designed for applications involving larger Triacs, SCR's and diodes; may be mounted vertically or horizontally. Size, 5.5" x 4.812".

423-A, K	$5.92	$4.66	$3.71	$3.10	423-(*)	$6.26	$4.93	$3.91	$3.31

*All other standard configurations; see *Ordering Information on following page.

413: Thermal resistance 1.4° C/W natural convection; 0.3° C/W moderate air flow. Size, 3.0" x 4.75". **421:** Same except 1.3° C/W natural convection.

Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249	Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249
413-A, K	$4.03	$3.17	$2.56	$2.14	421-A, K	$3.67	$2.89	$2.32	$1.92
413-(*)	4.71	3.71	3.04	2.56	421-(*)	4.03	3.17	2.51	2.10

441 (Fig. F): Designed for vertical mounting; taking better advantage of natural convection. Thermal resistance 0.55° C/W at high power levels; 0.18° C/W with moderate forced convection. Size, 4.75" x 5.5".

441-K	$9.78	$7.70	$6.17	$5.13	441-(*)	$10.46	$8.24	$6.57	$5.49

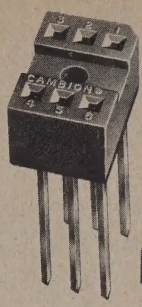
*All other standard configurations; see *Ordering Information on following page.

465 (Fig. G): Designed for 1⅛" hex high power rectifiers and SCR's. Provides maximum cooling for minimum space requirements. Size, 4" sq. **476 (Fig. G):** For 1¼" hex SCR's and rectifiers. Optimum fin efficiency with unique radial fin designs. Size, 5" sq. **486 and 489 (Fig. G):** For mounting 1¼" hex SCR's; utilize the decreased conduction path length between semiconductors and fin area for maximum cooling of these large devices. Size, 6" x 6.25", except 489, 9" x 6.25".

Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249	Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249
465-K	$6.53	$5.68	$5.00	$4.72	476-J, W	$ 9.86	$ 8.57	$ 7.50	$7.16
465-J	7.29	6.34	5.59	5.33	486-K	14.36	12.49	11.01	.....
476-K	8.92	7.76	6.81	6.42	489-K	20.76	18.05	15.81	.....

DUAL IN-LINE IC SOCKETS

For 6, 8, 14, 16, 18, 22, 24, 36 and 40 pin dual in-line integrated circuits with either Wire-Wrap* or solder-tab terminations. One-piece molded diallyl insulators withstand high temperatures and provide excellent mechanical stability (Nos. -3777 and -3778 are one-piece molded glass-filled nylon with anti-moisture bosses). Phosphor bronze contacts except flat or round pins up to .024" dia. Standard terminal plating is **-03** gold for all Wire-Wrap; **-04** electrotin for all solder tab sockets. Sockets can be supplied with electro-tin plating or Wire-Wrap pins or with gold plating on solder tab pins; prices on request. May be permanently mounted individually (rivet or screw) or press-mounted in PC boards or panels for production of breadboarding. Metric dimensional sockets for standard 14 and 16 pin DIPs are also available. *Reg. Gardner-Denver Co. TM.



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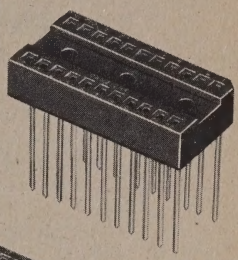
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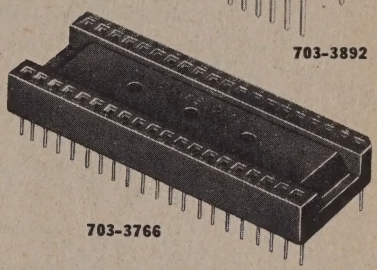
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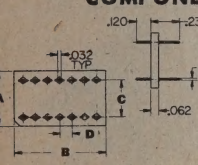
Cambion Part No.	No. Contacts	Terminals	Inches: Overall Length	Inches: Term. Grid	Net Each, Lots of: 1-9	10-99	100-499	500-999
703-3771-01-04-16	6	Solder tab	.334	.100 x	$0.95	$0.91	$0.64	$0.58
703-3881-01-03-16	6	Wire-Wrap	.334	.300	1.31	1.26	.88	.80
703-3772-01-04-16	8	Solder tab	.434		1.00	.96	.67	.61
703-3882-01-03-16	8	Wire-Wrap	.434		1.38	1.32	.92	.84
703-3777-01-04-12	14	Solder tab	.780		.91	.87	.61	.56
703-3788-01-04-16	14	Solder tab	.784		1.13	1.08	.76	.69
703-3897-01-03-16	14	Wire-Wrap	.784		1.54	1.48	1.03	.94
703-3778-01-04-12	16	Solder tab	.834		.99	.95	.66	.60
703-3789-01-04-16	16	Solder tab	.884		1.21	1.16	.81	.74
703-3898-01-03-16	16	Wire-Wrap	.884		1.70	1.63	1.14	1.04
703-3787-01-04-16	18	Solder tab	.934		1.39	1.33	.93	.85
703-3895-01-03-16	18	Wire-Wrap	.934		2.04	1.96	1.37	1.24
703-3785-01-04-16	22	Solder tab	1.180	.100 x	1.95	1.87	1.31	1.19
703-3892-01-03-16	22	Wire-Wrap	1.180	.400	2.73	2.62	1.83	1.67
703-3790-01-04-16	24	Solder tab	1.280	.100 x	2.26	2.17	1.51	1.38
703-3896-01-03-16	24	Wire-Wrap	1.280	.600	3.05	2.93	2.04	1.86
703-3783-01-04-16	28	Solder tab	1.480		2.52	2.42	1.69	1.54
703-3890-01-03-16	28	Wire-Wrap	1.480		3.35	3.20	2.24	2.04
703-3791-01-04-16	36	Solder tab	1.880		2.94	2.82	1.97	1.79
703-3893-01-03-16	36	Wire-Wrap	1.880		3.85	3.70	2.58	2.35
703-3766-01-04-16	40	Solder tab	2.080		3.20	3.05	2.14	1.95
703-3885-01-03-16	40	Wire-Wrap	2.080		4.15	4.00	2.78	2.53

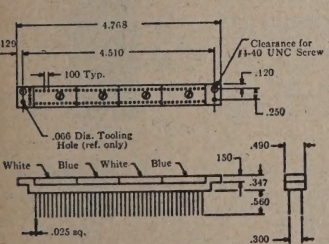
COMPONENT SOCKET ADAPTERS



Component adapters plug into standard 14, 16, 24 or 36 pin dual in-line sockets as well as CAMBION's Integrated Socket strip. Larger width sizes for wider components straddle two sockets or socket strips. Terminal pairs are on .100" or .200" grid centers for varying component sizes; slotted for ease of parts mounting. Terminal is phosphor bronze, spring tempered per QQ-B-750 Comp. A. Finish is hard gold plate. Board material, .062" type GEE glass epoxy per MIL-P-18177.

Cambion Part Number 702-	Dimensions, Inches: Board A	Board B	Terminal Centers C	Terminal Centers D	*	Net Each, Lots of: 1-9	10-49	50-99
702-3723-01-03-00	.450	.750	.300	.200	8	$0.93	$0.84	$0.74
702-3724-01-03-00	.950	.750	.800	.200	8	.93	.84	.74
702-3725-01-03-00	.450	.750	.300	.100	14	1.40	1.26	1.12
702-3726-01-03-00	.950	.750	.800	.100	14	1.40	1.26	1.12
702-3728-01-03-00	.450	.850	.300	.100	16	1.68	1.51	1.34
702-3730-01-03-00	.950	.850	.800	.100	16	1.68	1.51	1.34
702-3732-01-03-00	.750	1.235	.600	.200	12	1.23	1.11	.98
702-3734-01-03-00	.750	1.835	.600	.200	18	1.97	1.77	1.58

*No. of terminals.



80 PIN DUAL IN-LINE SOCKET STRIP

Molded diallyl body .025" sq., Wire-Wrap posts and spring contacts, electro-tin plated. Mounts all dual in-line devices without a PC board. Flanges at the ends provide for independent mounting or into CAMBION mounting frame or relay rack drawers. Pins are replaced by removing the screw down covers. Socket strips accept five 14 pin DIPs, four or five 16 pin DIPs. Wider MSI or LSI DIPs can be mounted by bridging between two properly spaced strips.

Cambion Part No. 703-1000-01-04-00—Net Each, 1–9 ..... **$4.80**; 10–99 ..... **$4.60**; Net Each, 100–499 ..... **3.20**; 500–999 ..... **2.93**

Cambion Part No. 706-6050-01-00-00 Mounting Frame—Holds 21 socket strips (approx. 100 ICs). Size, 5" x 11" approximate. Net Each, 1–4 ..... **$22.20**; 5–9 ..... **$20.00**

Cambion Part No. 706-6051-01-00-00 Double Mounting Frame—Holds 2 rows of 21 socket strip each (approx. 200 IC total). Size, 10" x 11" approx. Net Each, 1–4 ..... **$32.70**; Net Each, 5–9 ..... **29.40**

Cambion Part No. 706-6054-01-00-00 Mini Mounting Frame—Holds 6 socket strips (approx. 28 IC's). Size, 4" x 5" approx. Net Each, 1–4 ..... **$13.40**; 5–9 ..... **$12.10**

CAMBION drawer for 19" relay rack 1¾" h. or 3½" h.; holds approx. 600 ICs. Information on request: 706-6000 Series.

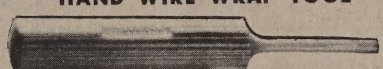
PRECUT AND STRIPPED WIRE KIT

For wire-wrapping. Solid copper 30 AWG white insulated Kynar* wire, silver plated, ends stripped to tolerance. Kit contains 13 pkgs. of varied lengths from 1" thru 9". Per pkg.: 1" thru 4.5", 100 pcs.; 5" thru 9", 50 pcs. Also available 1.0" thru 25.0" lengths in black, red and white insulation on request.

*Reg. Pennsalt Chemicals Corp. TM.

Cambion Part No. 718-1010-01-01-19—Net per Kit.... **$53.90**

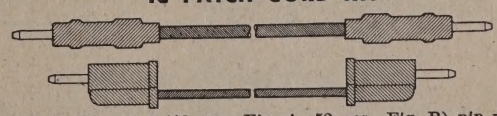
HAND WIRE WRAP TOOL



For wrapping solid copper 30 AWG wire. Low cost alternative to power equipment suitable for use in field repairs and by hobbyists and experimenters. Molded glass filled nylon. Size, 3.225" x .480" dia.

Cambion Part No. 435-1816-01-00-16—Net Each..... **$2.46**

IC PATCH CORD KIT



Contains 100 pieces (48 pcs., Fig. A; 52 pcs., Fig. B) pin patch cords .040" dia. Red, blue and black in 2", 4", 6" and 8" lgths. Ideal for breadboarding requirements.

Cambion Part No. 446-3892-01-00-00—Net per Kit.... **$88.70**

Cambion Part No. 446-3990-01-00-00—Contains 55 pieces stackable patch cords (Fig. B). Red, black and blue in 2", 4", 6" and 8" lengths. Net per Kit..... **$52.90**

Cambion Part No. 446-3991-01-00-00—Contains 73 pieces stackable patch cords (Fig. B). Red, black and blue in 2", 4", 6" and 8" lengths. Net per Kit..... **$70.60**

SOCKET TYPE HIGH DENSITY BREADBOARDS

16 pin dual-in-line sockets. Socket terminals connected via printed wiring to .040" cage jacks. Use with Cambion IC patch boards. Power and ground planes included.

Cambion Part No. 705-1024-01-00-00—16 sockets. Board size, 6.5" x 6.5". Net Each, 1–4..... **$69.00**; 5–9..... **$65.60**

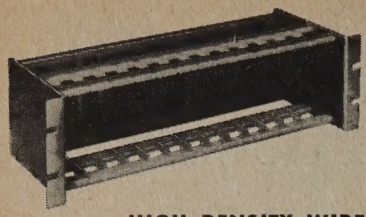
Cambion Part No. 705-1022-01-00-00—32 sockets. Board size, 6.5" x 11.5". Net Each, 1–4..... **$121.70**; 5–9..... **$115.60**

EXPERIMENTAL BREADBOARDS

Socket type breadboards for small circuit building applications. Socket terminal connected via printed wiring to .040" cage jacks. Use with Cambion IC patch cords. Binding posts for power supply connections included. Size, 4.5" x 6.5".

Cambion Part No.	Sockets	Pins/Socket	Accepts X-Pin DIPs	Net Ea., Lots 1-4	Net Ea., Lots 5-9
705-2105-02-00-00	4	18	6, 8, 14, 16, 18	$24.00	$22.80
705-2109-02-00-00	2†	22	22	23.80	22.60
705-2115-02-00-00	2	28	24, 28	22.60	21.50
705-2118-02-00-00	1*	40	24, 28, 36, 40	29.50	28.00

*Zero insertion force socket. †Includes decals for pin identification.



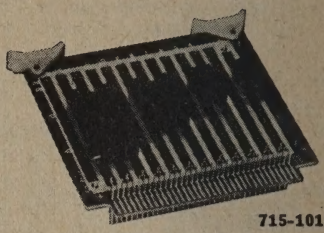
13 POSITION CARD FILE

Designed to provide maximum flexibility in a choice of logic accessories. Thirteen position card file has 1¼" card spacing. Complete with 13 Wire-Wrap connectors, voltage and ground power planes. Other styles and sizes available. Complete listing on request.

Cambion Part No.	For Card Size, In.	Net Each, Lots 1-4	Net Each, Lots 5-9	Cambion Part No.	For Card Size, In.	Net Each, Lots 1-4	Net Each, Lots 5-9
706-9002-02	4.5 x 9.25	$260.50	$234.50	706-9005-02	4.5 x 4.5	$256.70	$231.00

HIGH DENSITY WIRE-WRAP* CAMBI-CARDS®

Printed circuit boards designed to accept dual in-line IC sockets, in-line integrated circuits and discrete components in a tightly arranged package for Wire-Wrap interconnections. Each socket position on **715 Series** (on every other row on **714 Series**) has two auxiliary pins to permit connecting each IC to power and ground planes. Cards with sockets affixed; with sockets and spaces for discretes; for all discretes; copper-clad and blank cards; card extenders and general purpose cards without sockets but with grid patterns permitting mixing any combination of in-line ICs in any mounting pattern. All cards have edge connectors which plug into standard CAMBION card files, available with or without mating power planes. Board material—.062" thick, double clad copper, epoxy glass cloth type FL-GE per MIL-P-13949. Pin plating, gold over phosphor bronze material.
*Registered Gardner-Denver Co. TM

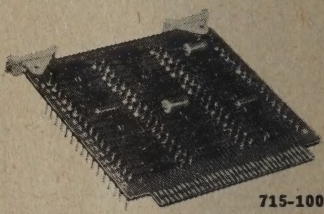


715-1015-01

715 SERIES—70 PIN INPUT/OUTPUT CONNECTORS

All cards 4.5" wide.

Cambion Part No.	Card Lgth. In.	No. of Sockets per Card	No. of Pins/ Socket	Net Each, Lots of 1-4	5-9	10-24
715-1000-01	4.5	Card extender	.....	$ 49.30	$ 44.40	$ 39.40
715-1001-01	4.5	Blank comp. card	.....	30.30	27.30	24.20
715-1002-01	4.5	Discretes only	.....	50.90	45.80	40.70
715-1004-01	4.5	10 plus discretes	24	94.60	85.10	75.70
715-1005-01	4.5	16 plus discretes	16	94.80	85.30	75.80
715-1006-01	4.5	16 plus discretes	14	91.40	82.30	73.10
715-1011-01	4.5	24	16	94.80	85.30	75.80
715-1013-01	4.5	24	14	91.40	82.30	73.10
715-1015-01	4.5	Gen'l purpose (w/o sockets)	.....	38.70	34.80	31.00
715-1016-01	4.5	Copper clad card	.....	11.90	10.70	9.50
715-1100-01	9.25	Card extender	.....	49.30	44.40	39.40
715-1101-01	9.25	Blank comp. card	.....	36.30	32.70	29.00
715-1102-01	9.25	Discretes only	.....	58.10	52.30	46.50
715-1104-01	9.25	25 plus discretes	24	164.10	147.70	131.30
715-1105-01	9.25	56 plus discretes	16	167.60	150.80	134.10
715-1106-01	9.25	56 plus discretes	14	160.80	144.70	128.60
715-1111-01	9.25	64	16	167.60	150.80	134.10
715-1113-01	9.25	64	14	160.80	144.70	128.60
715-1115-01	9.25	Gen'l purpose (w/o sockets)	.....	51.30	46.20	41.00
715-1116-01	9.25	Copper clad card	.....	13.10	11.80	10.50

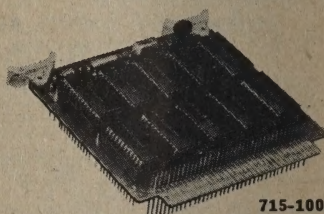


715-1002-01

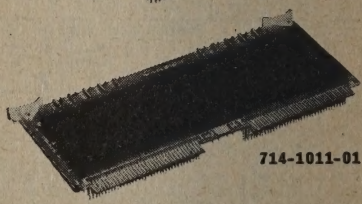
714 SERIES—140 PIN INPUT/OUTPUT

All cards 9.75" wide.

Cambion Part No.	Card Lgth. In.	No. of Sockets per Card	No. of Pins/ Socket	Net Each, Lots of 1-4	5-9	10-24
714-1011-01	4.5	54	16	$191.00	$171.90	$152.80
714-1013-01	4.5	54	14	177.30	159.60	141.80
714-1015-01	4.5	Gen'l purpose (w/o sockets)	.....	55.40	49.90	44.30
714-1016-01	4.5	Copper clad card	.....	24.90	22.40	19.90
714-1111-01	9.25	126	16	329.20	296.30	263.40
714-1113-01	9.25	126	14	284.50	256.10	227.60
714-1115-01	9.25	Gen'l purpose (w/o sockets)	.....	98.30	88.50	78.60
714-1116-01	9.25	Copper clad board	.....	24.90	22.40	19.90



715-1004-01



714-1011-01

LOGIC FUNCTION CARDS

CAMBION offers a complete line of logic function cards, all of which may be used with above standard, 4½" h., "714" and "715" series Wire-Wrap cards. Write for complete information on logic function cards.

UNIVERSAL PANELS

CAMBION universal panels support Wire-Wrap jacks arranged in columns .300" apart which accept dual-in-line packages with .300" and .600" pin alignment. Separate power planes are provided on each side of the panels. Several Wire-Wrap pins are provided adjacent to each column with direct connection to the power planes. Panels are available with one through six sections. Each section has large power and ground terminals for connection to power supplies and for the mounting of bulk decoupling capacitors.

Cambion Part No.	Description	Net Each, Lots of 1-4	5-9
707-1040-01-00-00	Power panel (1-section)	$ 84.50	$ 76.10
707-1040-02-00-00	Power panel (2-section)	166.50	149.90
707-1040-03-00-00	Power panel (3-section)	249.00	224.10
707-1040-04-00-00	Power panel (4-section)	331.00	297.90
707-1040-05-00-00	Power panel (5-section)	413.30	372.00
707-1040-06-00-00	Power panel (6-section)	495.50	446.00

70 PIN CARD CONNECTOR

Cambion Part No.	Terminals	Net Each, Lots of 1-4	5-9	10-24
706-7029-01	Solder lug	$8.40	$7.55	$6.90
706-7015-01*	Wire-Wrap	9.85	8.85	8.10

*For use with CAMBION Power Planes.

IC INSERTION-EXTRACTION TOOL

Handy tool properly positions integrated circuits for insertion or extraction by securely gripping the IC between the leads and under the body. Practically any IC with 14 or 16 leads aligned on 0.300" centers can easily be inserted or extracted regardless of tight packaging and without damage to the fragile IC leads. Basic material of insertion-extraction tool is plastic.

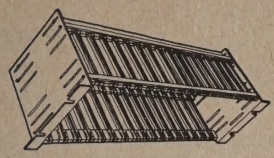
Cambion Part No. 706-3739-01—
Net Each, 1-4.....**$1.28**; 5-9.....**$1.15**
Net Each, 10-24..... **1.05**

IC TESTERS

Provide easy test point access to 14 and 16 pin Dual-In-Line IC's under operating conditions. Tester is placed over top of IC and makes contact with the exposed portion of each lead.

Cambion Part No. 706-1020-01-00-00 14-Pin Tester—
Net Each, 1-4.....**$2.93**; 5-9.....**$2.64**
Cambion Part No. 706-1019-01-00-00 16-Pin Tester—
Net Each, 1-4.....**$3.20**; 5-9.....**$2.88**

RAPID RACK CIRCUIT CARD AND CONNECTOR MOUNTING FILE KIT

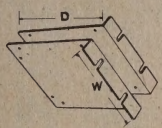


A complete kit system holding up to 34 cards 2.0″ to 6.25″ wide and 6″ to 8″ long. There are 8 kits available, two with spacing variable in ⅛″ increments and 6 with fixed spacing. Each kit contains all the parts for a complete file and mounts in a 19-inch rack or enclosure. The nylon card guides are 6″ in length and are self-lubricating, non-conductive, and offer shock and vibration protection. All metal parts are aluminum extrusions or 0.90″ sheets.

Scanbe No.	Card Width		Connector Mtg. Centers		Card Spacing	No. of Positions
	Min.″	Max.″	Min.″	Max.″		
60060	2.0	4.5	1.625	4.117	Variable	27
60065	2.0	6.25	1.625	5.867	Variable	27
60000	2.0	4.5	1.625	4.117	.50	34
60005	2.0	6.25	1.625	5.867	.50	34
60010	2.0	4.5	1.625	4.117	.625	26
60015	2.0	6.25	1.625	5.867	.625	26
60020	2.0	4.5	1.625	4.117	.75	21
60025	2.0	6.25	1.625	5.867	.75	21

Scanbe No.	Net Each		
	1-9	10-24	25-49
60060	$41.42	$39.60	$37.78
60065	42.18	40.32	38.46
60000	39.45	37.71	35.98
60005	40.55	38.77	36.98
60010	28.10	26.86	25.63
60015	28.85	27.58	26.31
60020	26.05	24.90	23.76
60025	26.78	25.60	24.42

RAPID RACK CARD FILE SYSTEM END PLATES



Three styles of these end plates—pre-punched for Scanbe cards, slotted, and blank—offer complete convenience in mounting guide assemblies. When selecting end plates, the card length and end-plate length should be proportional. End plates are supplied in pairs.

BLANK PLATES

Scanbe No.	Size		Net Each		
	W″	D″	1-9	10-14	25-49
60051	5.22	10.00	$2.34	$2.23	$2.12
60052	6.97	10.00	2.74	2.61	2.48
60053	8.72	10.00	3.04	2.90	2.75
60054	10.47	10.00	3.39	3.23	3.07
60055	12.22	10.00	3.76	3.58	3.40
60056	13.97	10.00	3.99	3.80	3.61
60057	15.72	10.00	4.06	3.87	3.68
60058	17.47	10.00	4.64	4.42	4.20

SLOTTED PLATES

Scanbe No.	Style	Size		Card Width		Connector Mtg. Centers	
		W″	D″	Min.″	Max.″	Min.″	Max.″
60046	Single Row	5.22	10.00	2.0	4.57	2.38	5.098
60047	Single Row	6.97	10.00	2.0	6.32	2.38	6.692
60048	Single Row	8.72	10.00	3.758	8.07	4.13	8.442
60049	Single Row	10.47	10.00	5.508	9.82	5.88	10.192

SLOTTED PLATE PRICES

Scanbe No.	Net Each		
	1-9	10-24	25-49
60046	$2.06	$1.97	$1.87
60047	2.46	2.34	2.23
60048	3.02	2.87	2.73
60049	3.39	3.23	3.07

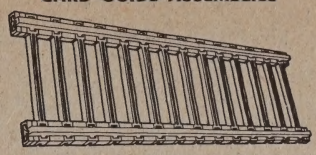
PRE-PUNCHED PLATE PRICES

Scanbe No.	Net Each		
	1-9	10-24	25-49
60061	$2.23	$2.12	$2.02
60062	2.74	2.61	2.48
60063	2.53	2.41	2.29
60064	3.76	3.58	3.40
60071	2.90	2.76	2.63
60066	4.64	4.42	4.20

PRE-PUNCHED PLATES FOR SCANBE CARDS

Scanbe No.	Style	Size		Scanbe Cards
		W″	D″	
60061	Single Row	5.22	8.25	11374 & 11388
60062	Double Row	10.47	8.25	11374 & 11388
60063	Single Row	5.22	11.25	11443 & 11475
60064	Double Row	10.47	11.25	11443 & 11475
60071	Single Row	8.72	9.00	11399 & 11466
60066	Double Row	17.47	9.00	11399 & 11466

CARD GUIDE ASSEMBLIES

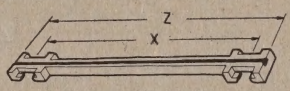


All nylon guides for standard printed-circuit or wire-wrapped cards. These units enable the designer to produce the card-rack configuration that is needed. Two single-column assemblies and the appropriate end plates (listed below) form a single rack to fit standard 19-inch equipment enclosures. Vertically stacked racks can be formed by mounting a double-column guide between two single-column guides. Assemblies are complete with nylon guides, aluminum mounting bars, and aluminum connector-mounting bars.

Scanbe No.	No. of Cards	Card Spacing	Stacking	Net Each		
				1-9	10-24	25-49
60030	14	1.2	Single	$10.30	$ 9.85	$ 9.39
60035	14	1.2	Double	18.25	17.45	16.64
60023	20	0.8	Single	12.45	11.90	11.35
60024	20	0.8	Double	22.78	21.77	20.77
60013	23	0.7	Single	13.25	12.67	12.08
60014	23	0.7	Double	24.15	23.09	22.02
60003	27	0.6	Single	14.38	13.74	13.11
60004	27	0.6	Double	26.25	25.10	23.94
60045	34	0.5	Single	21.00	20.08	19.15
60050	34	0.5	Double	38.08	36.40	34.72

INDIVIDUAL COMPONENTS FOR CUSTOM CARD-GUIDE ASSEMBLIES

A custom card-guide assembly can be produced easily and can be spaced at any increment for constant or variable spacing. Components are adaptable to most card sizes and configurations.



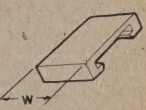
CARD GUIDES

Scanbe No.	Z″	X″
T-309-28	2.75	1.875
T-309-29	2.94	2.065
T-309-34	3.437	2.562
T-309-39	3.875	3.0
T-309-42	4.187	3.312
T-309-43	4.30	3.425
T-309-48	4.75	3.875
T-309-51	5.125	4.25
T-309-60	6.0	5.125
T-309-65	6.5	5.625
T-309-70	7.0	6.125
T-309-75	7.5	6.625

T-309 (any length)—Net per 100. Lots of 1–199..... **$18.36**
200–499.. **$17.50**; 500–999.. **$16.69**; 1000–1999.. **15.88**

SPACERS

Scanbe No.	W″	Card Spacing
T-101-62	0.062	0.562
T-101-100	0.100	0.600
T-101-125	0.125	0.625
T-101-152	0.152	0.650
T-101-173	0.173	0.673
T-101-200	0.200	0.700
T-101-250	0.250	0.750
T-101-300	0.300	0.800
T-101-375	0.375	0.875
T-101-500	0.500	1.000
T-101-700	0.700	1.200
T-101-750	0.750	1.250
T-101-1000	1.000	1.500



	1-199	200-499	500-999	1000-1999
T-101—(up to .499) Net per 100	$5.10	$4.86	$4.64	$4.41
—(.500 to 1.000) Net per 100	5.85	5.57	5.31	5.06

SPACER STOP

A clamp to compress and hold card guides when rack is not full.

T-910—Net per 100. Lots of 1–199..... **$63.92**
200–499..... **$60.91**; 500–999..... **58.09**
1000–1999..... **55.27**

CONNECTOR MOUNTING FEET

Scanbe No.	U″
A-305-AII	.395
A-305-BII	.457
A-305-CII	.310

A305-A, -B, -C—Net per 100. Lots: 1–199.. **$24.14**
200–499..... **$23.00**; 500–999..... **21.94**
1000–1999..... **20.87**

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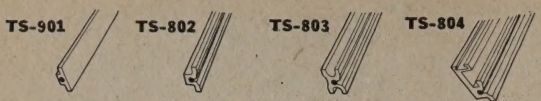


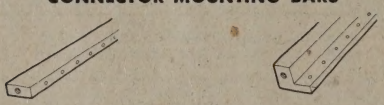
GUIDE MOUNTING BARS
17″ long, finished

Scanbe No.	Style	Net Each 1-4	5-9	10-24	25-49
TS-901-17.000	Extra Thin	$1.94	$1.75	$1.58	$1.42
TS-802-17.000	Single Row	1.66	1.49	1.34	1.21
TS-803-17.000	Double Row	1.78	1.61	1.45	1.30
TS-804-17.000	Single Row	2.23	2.01	1.81	1.63

24″ and 36″ long, unfinished

Scanbe No.	Style	Net Each 1-4	5-9	10-24	25-49
XTS-901-24.000	Extra Thin	$1.42	$1.28	$1.15	$1.04
XTS-802-24.000	Single Row	1.05	.94	.85	.76
XTS-803-24.000	Double Row	1.20	1.08	.98	.88
XTS-804-24.000	Single Row	1.75	1.57	1.42	1.27
XTS-901-36.000	Extra Thin	2.00	1.80	1.62	1.46
XTS-802-36.000	Single Row	1.44	1.30	1.17	1.05
XTS-803-36.000	Double Row	1.68	1.51	1.36	1.22
XTS-804-36.000	Single Row	2.48	2.24	2.02	1.81

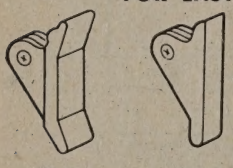
CONNECTOR MOUNTING BARS



No. 26480 is a heavy-duty "L" bar with 0.500″ spacing. All others are ¼″ x ½″ rectangular with spacings as listed.

Scanbe No.	No. of Connectors	Card Spacing	Net Each 1-4	5-9	10-24
60001	34	.500	$6.01	$5.42	$4.88
60002	27	.600	6.01	5.42	4.88
60011	26	.625	5.47	4.93	4.44
60012	23	.700	5.92	5.33	4.80
60021	21	.750	5.92	5.33	4.80
60022	20	.800	5.37	4.84	4.36
60031	14	1.200	4.93	4.44	4.00
60036	Blank	—	3.75	3.37	3.04
26480	34	.500	8.28	7.46	6.72

CIRCUIT CARD EJECTORS FOR EASY CARD REMOVAL



S-200 S-203

Unique circuit card ejectors can be used with most circuit card support systems. Attach to cards of either 1/16″ or 3/32″ thickness. Ejector operates by lever action against the card guide which disengages the card from its connector. Provides quick and convenient removal of any individual card from the file, and adds system reliability by preventing damage to card components and connectors from improper card removal. Individual handle eliminates need for special extraction tools. Ejectors attach easily to cards with a mounting pin furnished with the ejector. Two ejectors, one on each side, are recommended for cards wider than their length to avoid bending stresses on connectors and guides.

Scanbe No.	Size Width	Depth†	Height	For Card Thickness	Scanbe No.	For Card Thickness
S-200	.375″	.500″	1.125″	.062″	S-200-100	.093″
S-202	.250″	.500″	1.125″	.062″	S-202-100	.093″
S-203	.250″	.375″	1.093″	.062″	S-203-100	.093″
S-205	.312″	.500″	1.125″	.062″	S-205-100	.093″
S-208	.250″	.500″	1.062″	.062″	S-208-100	.093″

†Measured from center of mounting hole to extreme end.

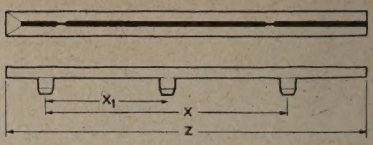
S-200, -202, -203, -205, -208—Net per 100. Lots of 1–99. **$17.84**
100–249..... **$16.07**; 250–499..... **14.48**

CIRCUIT CARD EJECTORS
(Special, for .062″ Cards)

Scanbe No.	Net per 100 1-99	100-299	300-499
S-206	$40.20	$36.24	$32.34
24963	60.88	54.87	49.42
25607	39.93	35.99	32.41

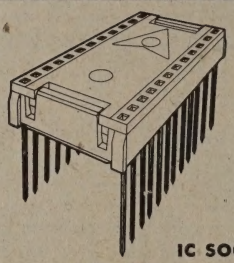
*Due to the fluctuating price of gold, these prices are approximate. Check with the distributor for the latest prices.

SNAP-IN CARD GUIDES



For snap-in installation in pre-drilled 1/16″ or 3/32″ metal plates.

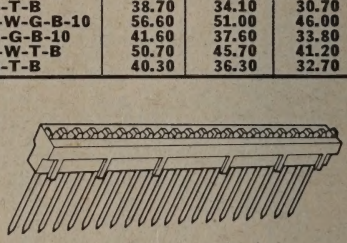
Scanbe No.	Z″	X″	X1″	Net Per 100 1-99	100-499	500-999	1000-4999
11633-1	2.5	1.5	—	$12.83	$11.58	$10.50	$ 9.43
11633-2	4.5	3.5	—	13.82	12.46	11.25	10.15
11633-3	6.5	5.5	—	14.80	13.35	12.05	10.87
11633-4	10.0	9.0	4.5	16.46	14.11	13.41	12.10
11633-5	12.0	11.0	5.5	17.49	15.78	14.24	12.85



IC SOCKETS

Precision-molded, nylon sockets designed to mate with the wide variety of IC leads available today. The closed-entry design and tapered entry channels ensure positive connections. Solder relief prevents solder wicking. Available with 24, 14, or 16 pins; solder-tail (S) or wire-wrap (W) pins; and gold-plated (G) or tin-plated (T) pins.

Scanbe No.	Net Per 100* 1-99	100-499	500-999	1000-3999
ME-2B-24-W-G-B-10	$120.00	$108.00	$97.30	$87.60
ME-2-24-S-G-B-10	97.10	87.60	79.00	71.10
ME-2B-24-W-T-B	111.00	99.80	90.00	81.00
ME-2-24-S-T-B	95.00	85.80	77.30	69.60
ME-2B-14-W-G-B-10	52.70	47.60	42.90	38.60
ME-2-14-S-G-B-10	38.20	34.40	31.00	27.90
ME-2B-14-W-T-B	47.50	42.90	38.60	34.80
ME-2-14-S-T-B	38.70	34.10	30.70	27.70
ME-2B-16-W-G-B-10	56.60	51.00	46.00	41.40
ME-2-16-S-G-B-10	41.60	37.60	33.80	30.50
ME-2B-16-W-T-B	50.70	45.70	41.20	37.10
ME-2-16-S-T-B	40.30	36.30	32.70	29.50



PIN STRIPS

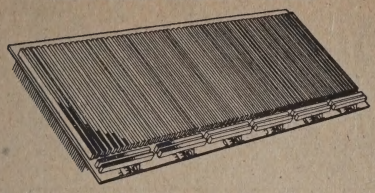
Pin strips are available in 11-, 12-, 14-, 18-, or 20-pin models. The body is molded of durable U.L. approved nylon. Precision edge-gripping contacts assure high reliability with maximum contact pressure while still assuring easy insertion and extraction. Removable cap provides either closed or open entry. Available with cap (C) or without cap (N). Solder reliefs prevent solder wicking. Pins are 0.025″ square for 3-level wire wrapping.

Scanbe No.	Net Per 100* 1-99	100-499	500-999	1000-3999
ME-2S-N-11-WGB-10	$62.50	$56.30	$50.80	$45.70
ME-2S-C-11-WGB-10	73.60	66.40	59.80	53.80
ME-2S-N-12-WGB-10	64.50	58.20	52.50	47.20
ME-2S-C-12-WGB-10	75.60	68.20	61.50	55.40
ME-2S-N-14-WGB-10	69.70	62.90	56.70	51.10
ME-2S-C-14-WGB-10	80.90	72.90	65.70	59.20
ME-2S-N-18-WGB-10	79.80	72.00	64.90	58.40
ME-2S-C-18-WGB-10	90.90	82.00	73.90	66.60
ME-2S-N-20-WGB-10	85.00	76.70	69.10	62.20
ME-2S-C-20-WGB-10	96.50	87.00	78.40	70.60

PIN STRIP CAPS

Scanbe No.	Net Per 100 1-99	100-499	500-999	1000-3999
ME-25-CAP-11, 12	$8.00	$7.20	$6.50	$5.80
ME-25-CAP-14, -18, -20	8.30	7.50	6.80	6.10

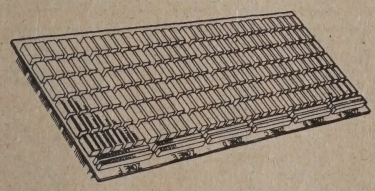
UNIVERSAL SOCKET PANELS



These boards feature one to six zones and each zone contains nine pin strips of 50 contacts each. Contacts are spaced on 0.100" centers, and rows are spaced 0.300", allowing any DIP with a 0.300" pin pattern to be accepted. Each zone has provisions for mounting one electrolytic, 4 axial-lead, and 14 ceramic decoupling capacitors. V_{cc} and GND planes are on opposite sides of the glass epoxy board with six V_{cc} and six GND pins for every two pin rows. A 46-pin female I/O is provided, and the pin strips have caps.

Scanbe No.	Net Each*			
	1-4	5-9	10-24	25-49
LPU-9-FA	$ 56.24	$ 53.06	$ 48.90	$ 46.46
LPU-18-FA	105.66	99.69	91.88	87.29
LPU-27-FA	162.15	152.99	141.00	133.95
LPU-36-FA	211.49	199.53	183.90	174.71
LPU-45-FA	261.76	246.97	227.62	216.24
LPU-54-FA	309.33	291.84	268.98	255.53

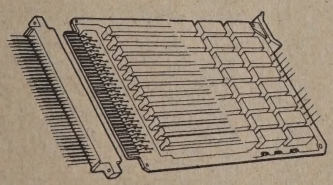
STANDARD SOCKET PANELS



Panels are available with either 14- or 16-pin sockets. The sockets are arranged in arrays of 30 per zone and panels are available with 1 to 6 zones. This choice gives the engineer panels with from 30 to 180 IC mounting provisions. Each zone has provisions for mounting 1 electrolytic, 4 axial-lead, and 13 ceramic decoupling capacitors. V_{cc} and GND planes are on opposite sides of the panels with one V_{cc} and one GND pin per IC position. A 46-pin female I/O is provided.

Scanbe No.	Net Each*			
	1-4	5-9	10-24	25-49
LPS-14VG-30-FA	$ 55.50	$ 52.36	$ 48.26	$ 45.85
LPS-14VG-60-FA	104.10	98.21	90.52	85.99
LPS-14VG-90-FA	152.63	144.00	132.72	126.08
LPS-14VG-120-FA	202.06	190.63	175.70	166.92
LPS-14VG-150-FA	250.59	236.42	217.90	207.01
LPS-14VG-180-FA	298.24	281.38	259.34	246.37
LPS-16VG-30-FA	56.28	53.10	48.94	46.49
LPS-16VG-60-FA	105.62	99.65	91.84	87.25
LPS-16VG-90-FA	145.57	137.34	126.58	120.25
LPS-16VG-120-FA	205.14	193.54	178.38	169.46
LPS-16VG-150-FA	254.86	240.46	221.62	210.54
LPS-16VG-180-FA	302.89	285.77	263.38	250.21

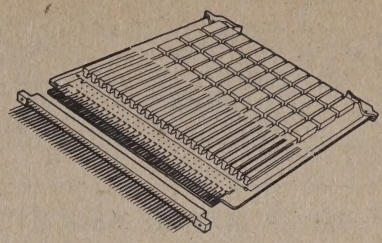
4.5" x 6" SOCKET CARDS



These cards are available with either forty 16-pin ME2 sockets or twelve pin strips of 50 contacts each. The sockets will accept both 14- and 16-pin devices, and the pin strips will accept any device with a multiple of 0.100" x 0.300" lead pattern. Each socket or pin strip has one V_{cc} and one GND pin allowing any device lead to be connected to either plane, which are on opposite sides of the card. Plated-through holes are provided on the socket card for mounting 16 ceramic and 8-axial-lead decoupling capacitors. The universal, pin-strip card will accept 12 ceramic and 6 axial-lead capacitors. Twelve test points are provided at the top of each card. The 72 gold-plated I/O contacts mate with No. 11302 wire-wrap connector. The pin strips are provided with caps, and card ejectors are mounted.

Scanbe No.		Net Each*			
		1-4	5-9	10-24	25-49
11374	Socket Card	$77.10	$72.74	$67.04	$63.69
11388	Universal Card	80.18	75.65	69.72	66.23
11303	Extender Card	43.31	40.86	37.66	35.78
11305	Termination Card	31.26	29.49	27.18	25.82
11302	Connector	6.05	5.71	5.26	5.00

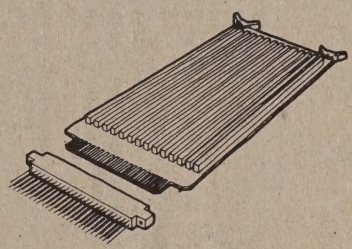
7" x 7" SOCKET CARDS



These cards are available with either sixty 16-pin ME-2 sockets or twenty-two pin strips of 50 contacts each. The sockets will accept 14- and 16-pin devices, and the pin strips will accept any device having a multiple of 0.100" x 0.300" lead pattern. Each socket or pin strip has one V_{cc} and one GND pin allowing any device lead to be connected to either plane, which are on opposite sides of the card. Plated-through holes are provided on the socket card for mounting 24 ceramic and 2 axial-lead decoupling capacitors. The universal, pin-strip card will accept 20 ceramic and 10 axial-lead capacitors. The 122 gold-plated I/O contacts mate with No. 25789 wire-wrap connector. The pin strips are provided with caps, and card ejectors are mounted.

Scanbe No.		Net Each*			
		1-4	5-9	10-24	25-49
11466	Socket Card	$111.99	$105.66	$ 97.38	$ 92.51
11399	Universal Card	130.04	122.69	113.08	107.43
11176	Extender Card	67.23	63.43	58.46	55.54
25789	Connector	9.71	9.16	8.44	8.02

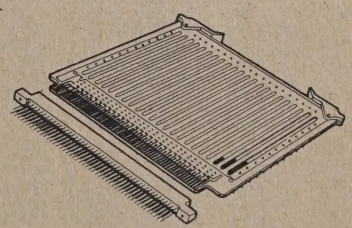
4.5" x 9" UNIVERSAL CARD



The No. 11443 universal card provides fourteen pin strips of 75 contacts each. There are 10 V_{cc} and 9 GND pins for every two rows of pin strips. These cards will accept any DIP device with a multiple of 0.100" x 0.300" lead pattern. The cards are made of 0.062" glass epoxy, and the V_{cc} and GND planes are on opposite sides of the board. The 72 gold-plated I/O contacts mate with the No. 11302 wire-wrap connector. The pin strips are provided with caps, and ejectors are mounted.

Scanbe No.		Net Each*			
		1-4	5-9	10-24	25-49
11443	Universal Card	$121.53	$114.66	$105.68	$100.40
11445	Extender Card	50.95	48.07	44.30	42.09
11302	Connector	6.05	5.71	5.26	5.00

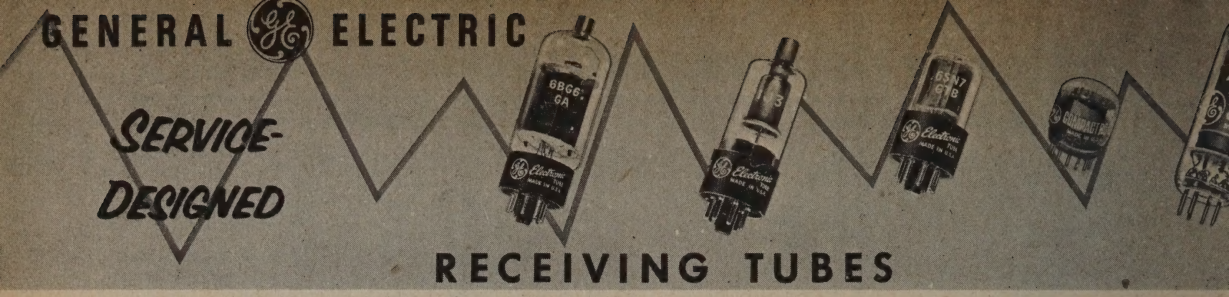
BLANK SOCKET CARDS



Use these to make custom socket cards. They are provided with mounted ejector, I/O contacts, and V_{cc} and GND pins ready to accept the custom socket array. The No. 11638 also provides twelve test points. Cards are made of 0.062" glass epoxy, and solder pads are provided at each pin hole for easy socket attachment—no gluing is required. All pin positions are numbered on both sides of the board.

Scanbe No.	Size	Net Each*			
		1-4	5-9	10-24	25-49
11638	4.5" x 6"	$48.28	$45.55	$41.98	$39.88
11643	4.9" x 9"	53.77	50.73	46.76	44.42
11639	7" x 7"	73.35	69.20	63.78	60.59

*Due to the fluctuating price of gold, these prices are approximate. Check with the distributor for the latest prices.



TUBES MAY BE ASSORTED TO OBTAIN QUANTITY DISCOUNTS

The receiving tubes listed below and on the following pages represent practically all types generally in demand. Many pre-World War II types are not included in order that we catalog a complete listing of new types now available. We invite your inquiries and orders for all types whether listed or not. As new types are released we will have them available. While we try to maintain complete stocks at all times, the listing of a particular type does not necessarily mean it is immediately available.

PHONE—WRITE—WIRE FOR PRICES & QUOTATIONS ON TUBES NOT LISTED.

Tube Type	List Price	Net Ea., Lots of 1-5	6-10	11 Up
0Z4/0Z4A	$ 5.90	$3.54	$2.95	$2.66
1A3/DA90	7.30	4.38	3.65	3.29
1AY2A	6.15	3.69	3.08	2.77
1BC2B	4.60	2.76	2.30	2.07
1BG2	6.40	3.84	3.20	2.88
1BH2A	5.10	3.06	2.55	2.30
1BK2/1RK41	2.95	1.77	1.48	1.33
1BY2A/1AD2A	5.30	3.18	2.65	2.39
1DG3A	7.05	4.23	3.53	3.18
1DK27	4.05	2.43	2.03	1.83
1DK29	3.20	1.92	1.60	1.44
1G3GTA/1B3GT	5.00	3.00	2.50	2.25
1K3A/1J3	5.00	3.00	2.50	2.25
1L6	13.80	8.28	6.90	6.21
1N5GT	4.90	2.94	2.45	2.21
1R5	7.05	4.23	3.53	3.18
1S2A/DY87	3.05	1.83	1.53	1.38
1S5	4.10	2.46	2.05	1.85
1T4	4.70	2.82	2.35	2.12
1U4/DF904	5.25	3.15	2.63	2.37
1U5	4.60	2.76	2.30	2.07
1V2	3.00	1.80	1.50	1.35
1X2C/1BX2	5.20	3.12	2.60	2.34
2A3	10.75	6.45	5.38	4.84
2AF4B/2DZ4	6.25	3.75	3.13	2.82
2AU2	3.95	2.37	1.98	1.78
2AV2	5.55	3.33	2.78	2.50
2BN4A	5.30	3.18	2.65	2.39
2BU2/2AS2A/2AH2	5.30	3.18	2.65	2.39
2CN3B	5.50	3.30	2.75	2.48
2CW4	8.25	4.95	4.13	3.72
2CY5	7.75	4.65	3.88	3.49
2DS4	8.25	4.95	4.13	3.72
2DV4	8.55	5.13	4.28	3.85
2EG4	8.25	4.95	4.13	3.72
2EN5	3.20	1.92	1.60	1.44
2ER5/XC95	4.00	2.40	2.00	1.80
2FH5	4.00	2.40	2.00	1.80
2FS5	8.20	4.92	4.10	3.69
2GK5/2FQ5A	5.25	3.15	2.63	2.37
2GU5	6.35	3.81	3.18	2.86
2HA5	4.50	2.70	2.25	2.03
2HQ5	4.70	2.82	2.35	2.12
3A2	7.35	4.41	3.68	3.31
3A3C/3AW3/3B2	5.05	3.03	2.53	2.28
3AF4B/3DZ4	6.15	3.69	3.08	2.77
3AL5	4.35	2.61	2.18	1.96
3AT2B	4.90	2.94	2.45	2.21
3AU6	3.95	2.37	1.98	1.78
3AV6	3.20	1.92	1.60	1.44
3AW2A	5.10	3.06	2.55	2.30
3BA6	2.35	1.41	1.18	1.06
3BC5/3CE5	4.05	2.43	2.03	1.83
3BL2A	5.05	3.03	2.53	2.28
3BM2	4.55	2.73	2.28	2.05
3BN2A	4.85	2.91	2.43	2.19
3BN4A	4.05	2.43	2.03	1.83
3BN6	6.90	4.14	3.45	3.11
3BW2/3BS2B/3BT2A	5.30	3.18	2.65	2.39
3BY6	3.85	2.31	1.93	1.74
3BZ6	5.05	3.03	2.53	2.28
3CA3	4.05	2.43	2.03	1.83
3CA3A	4.50	2.70	2.25	2.03
3CB6/3CF6	4.05	2.43	2.03	1.83
3CN3B	5.55	3.33	2.78	2.50
3CS6	$ 4.90	$2.94	$2.45	$2.21
3CU3A	6.15	3.69	3.08	2.77
3CY5	5.95	3.57	2.98	2.68
3CZ3A	5.25	3.15	2.63	2.37
3DA3/3CX3	5.55	3.33	2.78	2.50
3DB3/3CY3	5.55	3.33	2.78	2.50
3DC3	5.85	3.51	2.93	2.64
3DF3A	6.65	3.99	3.33	3.00
3DG4	9.00	5.40	4.50	4.05
3DH3	6.55	3.93	3.28	2.95
3DHH13	7.20	4.32	3.60	3.24
3DJ3	5.35	3.21	2.68	2.41
3DK6	4.90	2.94	2.45	2.21
3DR3	9.35	5.61	4.68	4.21
3DS3	9.35	5.61	4.68	4.21
3DT6A	4.45	2.67	2.23	2.01
3EH7/XF183	3.30	1.98	1.65	1.49
3EJ7/XF184	3.30	1.98	1.65	1.49
3ER5	5.25	3.15	2.63	2.37
3FH5	3.25	1.95	1.63	1.47
3FS5	7.30	4.38	3.65	3.29
3GK5	4.85	2.91	2.43	2.19
3HM5/3HA5	4.80	2.88	2.40	2.16
3HQ5	7.15	4.29	3.58	3.22
3JC6A	6.85	4.11	3.43	3.09
3KT6	4.55	2.73	2.28	2.05
3MP26	4.40	2.64	2.20	1.98
3Q4/DL95	5.90	3.54	2.95	2.66
3S4/DL92	3.40	2.04	1.70	1.53
3V4	6.10	3.66	3.05	2.75
4AU6	5.25	3.15	2.63	2.37
4AV6	3.60	2.16	1.80	1.62
4BC8	5.90	3.54	2.95	2.66
4BL8/XCF80	3.05	1.83	1.53	1.38
4BN6	4.05	2.43	2.03	1.83
4BS8	4.55	2.73	2.28	2.05
4BU8/4GS8	6.05	3.63	3.03	2.73
4BZ6	4.70	2.82	2.35	2.12
4CB6	3.65	2.19	1.83	1.65
4CE5/4BC5	3.05	1.83	1.53	1.38
4CS6	5.05	3.03	2.53	2.28
4DE6	3.70	2.22	1.85	1.67
4DK6	4.60	2.76	2.30	2.07
4DT6A	5.20	3.12	2.60	2.34
4EH7/LF183	4.50	2.70	2.25	2.03
4EJ7/LF184	4.50	2.70	2.25	2.03
4ES8/XCC189	5.90	3.54	2.95	2.66
4EW6	3.25	1.95	1.63	1.47
4GK5	3.65	2.19	1.83	1.65
4GJ7/XCF801	5.20	3.12	2.60	2.34
4GM6	3.70	2.22	1.85	1.67
4HA5/PC900	2.80	1.68	1.40	1.26
4HA7/4HC7	5.65	3.39	2.83	2.55
4HM6	3.75	2.25	1.88	1.69
4HQ5	5.60	3.36	2.80	2.52
4HS8	5.00	3.00	2.50	2.25
4HT6A	3.50	2.10	1.75	1.58
4JC6A	6.80	4.08	3.40	3.06
4JD6	6.25	3.75	3.13	2.82
4JH6	4.60	2.76	2.30	2.07
4KE8	8.25	4.95	4.13	3.72
4KT6	5.75	3.45	2.88	2.59
4LJ8	6.00	3.60	3.00	2.70
4LU6	6.35	3.81	3.18	2.86
4MK8	5.35	3.21	2.68	2.41
4MP12	4.40	2.64	2.20	1.98
4MP26	4.40	2.64	2.20	1.98
4RHH8/4KN8	8.30	4.98	4.15	3.74
5AM8	$ 7.55	$4.53	$3.78	$3.40
5AN8	6.15	3.69	3.08	2.77
5AQ5	5.05	3.03	2.53	2.28
5AR4/GZ34	6.80	4.08	3.40	3.06
5AS8	4.75	2.85	2.38	2.14
5AT8	5.80	3.48	2.90	2.16
5AV8	4.35	2.61	2.18	1.96
5AZ4	5.30	3.18	2.65	2.39
5B8	5.90	3.54	2.95	2.66
5BC3A	4.10	2.46	2.05	1.85
5BE8	3.35	2.01	1.68	1.51
5BK7A	5.20	3.12	2.60	2.34
5BT8	3.30	1.98	1.65	1.49
5BW8	6.20	3.72	3.10	2.79
5BZ7/5BQ7A	6.30	3.78	3.15	2.84
5CG8	5.45	3.27	2.73	2.46
5CQ8	4.40	2.64	2.20	1.98
5CZ5	4.80	2.88	2.40	2.16
5DJ4	3.95	2.37	1.98	1.78
5EA8	7.70	4.62	3.85	3.47
5ES8/YCC189	5.90	3.54	2.95	2.66
5EU8	4.85	2.91	2.43	2.19
5EW6	5.45	3.27	2.73	2.46
5FG7	7.55	4.53	3.78	3.40
5FV8/5BR8/5CL8A	6.65	3.99	3.33	3.00
5GH8A	5.90	3.54	2.95	2.66
5GJ7/LCF801	3.25	1.95	1.63	1.47
5GM6	4.45	2.67	2.23	2.01
5GS7	3.45	2.07	1.73	1.56
5GX7	5.60	3.36	2.80	2.52
5HA7	5.65	3.39	2.83	2.55
5HB7	3.75	2.25	1.88	1.69
5HG8/LCF86	4.50	2.70	2.25	2.03
5HZ6	3.95	2.37	1.98	1.78
5J6	5.65	3.39	2.83	2.55
5JK6	4.90	2.94	2.45	2.21
5JL6	4.50	2.70	2.25	2.03
5JW8	4.50	2.70	2.25	2.03
5KE8	8.25	4.95	4.13	3.72
5KZ8	5.30	3.18	2.65	2.39
5LJ8	5.55	3.33	2.78	2.50
5MB8	4.70	2.82	2.35	2.12
5T8	5.35	3.21	2.68	2.41
5U4GB/5AS4A	3.85	2.31	1.93	1.74
5U8	6.35	3.81	3.18	2.86
5U9/LCF201	5.15	3.09	2.58	2.32
5V3A/5AU4	5.20	3.12	2.60	2.34
5V4GA	5.85	3.51	2.93	2.64
5V6GT	4.00	2.40	2.00	1.80
5X8	5.00	3.00	2.50	2.25
5Y3GT	4.40	2.64	2.20	1.98
5Y4GA	3.85	2.31	1.93	1.74
5Z3	5.45	3.27	2.73	2.46
5Z4/GZ30	4.40	2.64	2.20	1.98
6A7	8.00	4.80	4.00	3.60
6AB4	5.10	3.06	2.55	2.30
6AC7	7.85	4.71	3.93	3.54
6AC10	5.75	3.45	2.88	2.59
6AD10	12.25	7.35	6.13	5.52
6AF3	6.15	3.69	3.08	2.77
6AF4	7.35	4.41	3.68	3.31
6AF6G	8.85	5.31	4.43	3.99
6AF9	7.10	4.26	3.55	3.20
6AF11	7.55	4.53	3.78	3.40
6AG5	5.85	3.51	2.93	2.64
6AG7	10.50	6.30	5.25	4.73
6AG9	9.60	5.76	4.80	4.32

RCA

RECEIVING TUBES

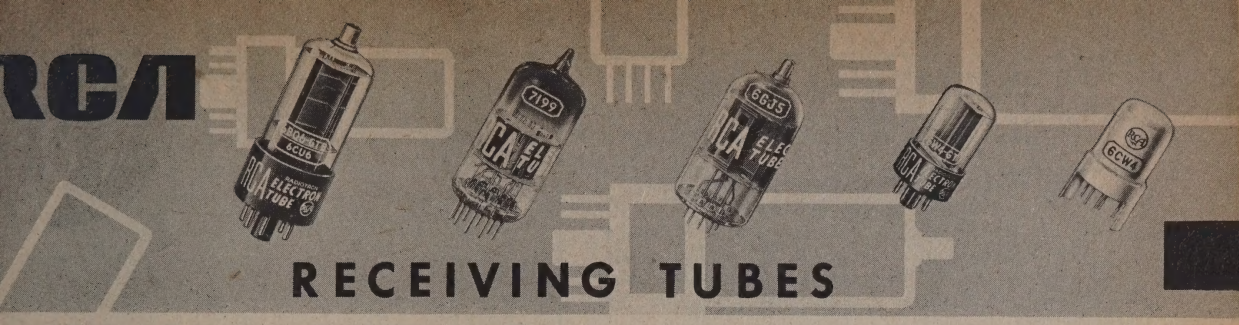
Tube Type	List Price	Net Ea., Lots of 1-5	6-10	11 Up
6AG11	$ 7.95	$4.77	$3.98	$3.58
6AH4GT	3.95	2.37	1.98	1.78
6AH6	9.80	5.88	4.90	4.41
6AH9	6.45	3.87	3.23	2.91
6AK5/EF95	6.70	4.02	3.35	3.02
6AK6	3.75	2.25	1.88	1.69
6AK8/EABC80	3.55	2.13	1.78	1.60
6AK10	7.80	4.68	3.90	3.51
6AL3/EY88	3.05	1.83	1.53	1.38
6AL5/EAA91	4.35	2.61	2.18	1.96
6AL7GT	8.85	5.31	4.43	3.99
6AL11	8.85	5.31	4.43	3.99
6AM4	13.55	8.13	6.78	6.10
6AM8A	7.35	4.41	3.68	3.31
6AN4, A	6.65	3.99	3.33	3.00
6AN8A	6.05	3.63	3.03	2.73
6AQ5A/6HG5	4.25	2.55	2.13	1.92
6AQ6	3.95	2.37	1.98	1.78
6AQ7GT	6.50	3.90	3.25	2.93
6AQ8/ECC85	3.25	1.95	1.63	1.47
6AR5	2.70	1.62	1.35	1.22
6AR8	9.45	5.67	4.73	4.26
6AR11	8.05	4.83	4.03	3.63
6AS5	5.45	3.27	2.73	2.46
6AS8	8.25	4.95	4.13	3.72
6AS11	9.75	5.85	4.88	4.39
6AT6/EBC90	2.55	1.53	1.28	1.15
6AT8A	7.15	4.29	3.58	3.22
6AU4GTA	6.55	3.93	3.28	2.95
6AU5GT	8.05	4.83	4.03	3.63
6AU8A	7.15	4.29	3.58	3.22
6AV5GA	7.35	4.41	3.68	3.31
6AV6	3.70	2.22	1.85	1.67
6AV11	5.80	3.48	2.90	2.61
6AW8A	5.65	3.39	2.83	2.55
6AX3	4.60	2.76	2.30	2.07
6AX4GTB	5.05	3.03	2.53	2.28
6AX5GT	6.35	3.81	3.18	2.86
6AY3B/6BS3A	5.05	3.03	2.53	2.28
6AY11	10.35	6.21	5.18	4.66
6AZ8	7.65	4.59	3.83	3.45
6B8	6.85	4.11	3.43	3.09
6B10	6.10	3.66	3.05	2.75
6BA3	3.10	1.86	1.55	1.40
6BA6/EF93	4.45	2.67	2.23	2.01
6BA7	8.30	4.98	4.15	3.74
6BA8A	7.05	4.23	3.53	3.18
6BA11	6.15	3.69	3.08	2.77
6BC4	7.00	4.20	3.50	3.15
6BC7	5.05	3.03	2.53	2.28
6BC8/6BZ8	7.35	4.41	3.68	3.31
6BD6	2.35	1.41	1.18	1.06
6BD11	7.65	4.59	3.83	3.45
6BE3A/6BZ3	6.10	3.66	3.05	2.75
6BE6	4.90	2.94	2.45	2.21
6BF5	4.05	2.43	2.03	1.83
6BF6	3.45	2.07	1.73	1.56
6BF11	7.60	4.56	3.80	3.42
6BG6GA	11.45	6.87	5.73	5.16
6BH3A	2.80	1.68	1.40	1.26
6BH6	5.05	3.03	2.53	2.28
6BH8	6.10	3.66	3.05	2.75
6BH11	5.90	3.54	2.95	2.66
6BJ3	4.35	2.61	2.18	1.96
6BJ6	5.50	3.30	2.75	2.48
6BJ7	4.20	2.52	2.10	1.89
6BJ8	5.25	3.15	2.63	2.37
6BK4C/6EL4A	9.35	5.61	4.68	4.21
6BK5	3.75	2.25	1.88	1.69
6BK7B	6.90	4.14	3.45	3.11
6BL7GTA	8.25	4.95	4.13	3.72
6BL8/ECF80	3.40	2.04	1.70	1.53
6BM8/ECL82	3.10	1.86	1.55	1.40
6BN4A	5.60	3.36	2.80	2.52
6BN8	5.20	3.12	2.60	2.34
6BN11	8.20	4.92	4.10	3.69
6BQ5/EL84	4.90	2.94	2.45	2.21
6BQ5P	9.35	5.61	4.68	4.21
6BQ6GTB/6CU6	8.35	5.01	4.18	3.76
6BR3/6RK19	5.00	3.00	2.50	2.25
6BS8	8.85	5.31	4.43	3.99
6BU8	6.90	4.14	3.45	3.11
6BV8	5.45	3.27	2.73	2.46
6BV11	7.85	4.71	3.93	3.54
6BW4	3.65	2.19	1.83	1.65
6BW8	7.10	4.26	3.55	3.20
6BW11	7.90	4.74	3.95	3.56
6BX6/EF80	3.25	1.95	1.63	1.47
6BX7GT	8.05	4.83	4.03	3.63
6BY5GA	5.20	3.12	2.60	2.34
6BY6	4.90	2.94	2.45	2.21
6BY8	$ 3.65	$2.19	$1.83	$1.65
6BZ6	3.90	2.34	1.95	1.76
6C4	5.25	3.15	2.63	2.37
6C5	6.95	4.17	3.48	3.13
6C6	7.85	4.71	3.93	3.54
6C9	6.50	3.90	3.25	2.93
6C10	5.90	3.54	2.95	2.66
6CA4	5.35	3.21	2.68	2.41
6CA5	4.00	2.40	2.00	1.80
6CB5A	12.05	7.23	6.03	5.43
6CB6A/6CF6	4.10	2.46	2.05	1.85
6CD6GA	9.45	5.67	4.73	4.26
6CE5/6BC5	3.95	2.37	1.98	1.78
6CG3/6CE3/6CD3/6BW3	4.95	2.97	2.48	2.23
6CG8A	5.40	3.24	2.70	2.43
6CH8	6.20	3.72	3.10	2.79
6CJ3/6DW4B	4.70	2.82	2.35	2.12
6CK4	4.35	2.61	2.18	1.96
6CL3/6CK3	5.05	3.03	2.53	2.28
6CL6	6.90	4.14	3.45	3.11
6CL8A	6.15	3.69	3.08	2.77
6CM3	5.85	3.51	2.93	2.64
6CM6	4.70	2.82	2.35	2.12
6CM7	5.70	3.42	2.85	2.57
6CM8	5.20	3.12	2.60	2.34
6CN7	6.95	4.17	3.48	3.13
6CQ8	6.25	3.75	3.13	2.82
6CR6	3.30	1.98	1.65	1.49
6CS6	5.55	3.33	2.78	2.50
6CS7	4.55	2.73	2.28	2.05
6CU5	5.50	3.30	2.75	2.48
6CU8	5.60	3.36	2.80	2.52
6CW4	8.85	5.31	4.43	3.99
6CW5/EL86	2.95	1.77	1.48	1.33
6CX8	7.95	4.77	3.98	3.58
6CY5	7.75	4.65	3.88	3.49
6CY7	5.40	3.24	2.70	2.43
6CZ5	5.75	3.45	2.88	2.59
6D10	7.85	4.71	3.93	3.54
6DA4A/6DM4A	5.05	3.03	2.53	2.02
6DB5	5.35	3.21	2.68	2.41
6DC6	4.70	2.82	2.35	2.12
6DC8/EBF89	3.05	1.85	1.53	1.38
6DE4/6CQ4	5.70	3.42	2.85	2.57
6DE6	4.45	2.67	2.23	2.01
6DE7	5.45	3.27	2.73	2.46
6DHH13	7.45	4.47	3.73	3.36
6DK6	4.90	2.94	2.45	2.21
6DL3	6.45	3.87	3.23	2.91
6DL4/EC88	7.95	4.77	3.98	3.58
6DL5/EL95	3.55	2.13	1.78	1.60
6DN3	4.70	2.82	2.35	2.12
6DN6	7.55	4.53	3.78	3.40
6DN7	6.25	3.75	3.13	2.82
6DQ4	3.70	2.22	1.85	1.67
6DQ5	10.45	6.27	5.23	4.71
6DR7	6.15	3.69	3.08	2.77
6DS4	8.85	5.31	4.43	3.99
6DS5	3.95	2.37	1.98	1.78
6DT5	4.55	2.73	2.28	2.05
6DT6A	4.40	2.64	2.20	1.98
6DT8	5.05	3.03	2.53	2.28
6DU3/6DQ3A	6.65	3.99	3.33	3.00
6DV4	7.65	4.59	3.83	3.45
6DX8/ECL84	2.95	1.77	1.48	1.33
6DZ4/6AF4A	7.35	4.41	3.68	3.31
6E5	7.45	4.77	3.73	3.36
6EA8	4.95	2.97	2.48	2.23
6EC4A/EY500	5.15	3.09	2.58	2.32
6EH4A	11.30	6.78	5.65	5.08
6EH5	4.35	2.61	2.18	1.96
6EH7/EF183	4.80	2.88	2.40	2.16
6EH8	4.75	2.85	2.38	2.14
6EJ4A	13.50	8.10	6.75	6.08
6EJ7/EF184	4.50	2.70	2.25	2.03
6EM5	5.45	3.27	2.73	2.46
6EM7/6EA7	7.10	4.26	3.55	3.20
6EN4	11.55	6.93	5.78	5.20
6EQ7	3.95	2.37	1.98	1.78
6ER5	5.10	3.06	2.55	2.30
6ES5	3.35	2.01	1.68	1.51
6ES8/ECC189	5.90	3.54	2.95	2.66
6ET7	4.35	2.61	2.18	1.96
6EU7	5.35	3.21	2.68	2.41
6EU8	5.00	3.00	2.50	2.25
6EV5	5.20	3.12	2.60	2.34
6EV7	3.60	2.16	1.80	1.62
6EW6	4.50	2.70	2.25	2.03
6EW7	7.95	4.77	3.98	3.58
6EZ5	6.90	4.14	3.45	3.11
6EZ8	$ 4.90	$2.94	$2.45	$2.21
6F5	7.55	4.53	3.78	3.40
6F6	8.00	4.80	4.00	3.60
6F6GT	8.00	4.80	4.00	3.60
6FA7	2.95	1.77	1.48	1.33
6FD6	3.55	2.13	1.78	1.60
6FD7	6.85	4.11	3.43	3.09
6FE5	3.40	2.04	1.70	1.53
6FG5	5.35	3.21	2.68	2.41
6FG6/EM84	3.95	2.37	1.98	1.78
6FG7	7.60	4.56	3.80	3.42
6FH5	6.05	3.63	3.03	2.73
6FH8	5.65	3.39	2.83	2.55
6FJ7	5.05	3.03	2.53	2.28
6FM7	5.80	3.48	2.90	2.61
6FM8	5.50	3.30	2.75	2.48
6FQ7/6CG7	3.75	2.25	1.88	1.69
6FS5	6.95	4.17	3.48	3.13
6FV6	5.45	3.27	2.73	2.46
6FV8A/6BR8A	7.05	4.23	3.53	3.18
6FW5	7.10	4.26	3.55	3.20
6FY5/EC97	3.20	1.92	1.60	1.44
6FY7	4.75	2.85	2.38	2.14
6G11	10.50	6.30	5.25	4.73
6GB5/EL500	4.45	2.67	2.23	2.01
6GC5	6.85	4.11	3.43	3.09
6GE5	7.20	4.32	3.60	3.24
6GF5	5.20	3.12	2.60	2.34
6GF7A	6.65	3.99	3.33	3.00
6GH8A	3.95	2.37	1.98	1.78
6GJ5A	7.35	4.41	3.68	3.31
6GJ7/ECF801	3.40	2.04	1.70	1.53
6GK5/6FQ5A	5.85	3.51	2.93	2.64
6GK6	4.70	2.82	2.35	2.12
6GL7	7.20	4.32	3.60	3.24
6GM5	3.60	2.16	1.80	1.62
6GM6	5.25	3.15	2.63	2.37
6GM8/ECC86	4.35	2.61	2.18	1.96
6GN8/EB8	8.00	4.80	4.00	3.60
6GQ7	4.05	2.43	2.03	1.83
6GS7	4.60	2.76	2.30	2.07
6GT5A	8.65	5.19	4.33	3.90
6GU5	5.90	3.54	2.95	2.66
6GU7	5.25	3.15	2.63	2.37
6GV5	5.55	3.33	2.78	2.50
6GV8/ECL85	5.50	3.30	2.75	2.48
6GW8/ECL86	3.25	1.95	1.63	1.47
6GX7	6.10	3.66	3.05	2.75
6GY5	6.25	3.75	3.13	2.82
6GY6/6GX6	4.35	2.61	2.18	1.96
6GY8	8.85	5.31	4.43	3.99
6H6	7.55	4.53	3.78	3.40
6HB5	6.25	3.75	3.13	2.82
6HB6/6HA6	6.95	4.17	3.48	3.13
6HB7	4.85	2.91	2.43	2.19
6HD7	3.90	2.34	1.95	1.76
6HF5	12.60	7.56	6.30	5.67
6HF8	7.20	4.32	3.60	3.24
6HG8/ECF86	4.00	2.40	2.00	1.80
6HJ8	4.55	2.73	2.28	2.05
6HK5	4.20	2.52	2.10	1.89
6HL8	3.70	2.22	1.85	1.67
6HM5/6HA5	4.80	2.88	2.40	2.16
6HM6	3.30	1.98	1.65	1.49
6HQ5	6.35	3.81	3.18	2.86
6HR5	3.50	2.10	1.75	1.58
6HR6	5.90	3.54	2.95	2.66
6HS5	9.80	5.88	4.90	4.41
6HS6	4.85	2.91	2.43	2.19
6HS8	6.00	3.60	3.00	2.70
6HU6/EM87	5.20	3.12	2.60	2.34
6HU8/ELL80	6.65	3.99	3.33	3.00
6HV5A	11.80	7.08	5.90	5.31
6HZ5/6JD5	10.60	6.36	5.30	4.77
6HZ6	3.95	2.37	1.98	1.78
6J5	6.30	3.78	3.15	2.84
6J5GT	5.90	3.54	2.95	2.66
6J6A	7.35	4.41	3.68	3.31
6J7	7.70	4.62	3.85	3.47
6J11	10.10	6.06	5.05	4.55
6JA5	6.55	3.93	3.28	2.95
6JB6A	8.05	4.83	4.03	3.63
6JC5/6JB5/6HE5	6.00	3.60	3.00	2.70
6JC6A	5.65	3.39	2.83	2.55
6JC8	4.50	2.70	2.25	2.03
6JD5	10.60	6.36	5.30	4.77
6JD6	5.80	3.48	2.90	2.61
6JE6C/6LQ6	11.15	6.69	5.58	5.02
6JF6	9.15	5.49	4.58	4.12
6JG5	3.95	2.37	1.98	1.78
6JG6A	8.90	5.34	4.45	4.01

GENERAL ELECTRIC

SERVICE-DESIGNED

RECEIVING TUBES

Tube Type	List Price	Net Ea., Lots of 1-5	6-10	11 Up
6JH5	$ 9.85	$5.91	$4.93	$4.44
6JH6	4.50	2.70	2.25	2.03
6JH8	8.35	5.01	4.18	3.76
6JK6	4.90	2.94	2.45	2.21
6JK8	4.75	2.85	2.38	2.14
6JM6A	7.20	4.32	3.60	3.24
6JN6	6.75	4.05	3.38	3.04
6JN8	5.00	3.00	2.50	2.25
6JQ6	5.20	3.12	2.60	2.34
6JS6C	9.30	5.58	4.65	4.19
6JT6A	8.00	4.80	4.00	3.60
6JT8	6.00	3.60	3.00	2.70
6JU6	9.45	5.67	4.73	4.26
6JU8A	5.55	3.33	2.78	2.50
6JV8/ECH84	6.00	3.60	3.00	2.70
6JW8/ECF802	4.20	2.52	2.10	1.89
6JZ6	6.35	3.81	3.18	2.86
6JZ8	4.80	2.88	2.40	2.16
6K6GT	5.45	3.27	2.73	2.46
6K7	7.45	4.47	3.73	3.36
6K11/6Q11	6.05	3.63	3.03	2.73
6KA8	6.15	3.69	3.08	2.77
6KD6	11.25	6.75	5.63	5.07
6KE8	7.65	4.59	3.83	3.45
6KG6A/EL509	10.35	6.21	5.18	4.66
6KL8	2.95	1.77	1.48	1.33
6KM6	11.25	6.75	5.63	5.07
6KM8	3.80	2.28	1.90	1.71
6KN6	9.85	5.91	4.93	4.44
6KN8/6RHH8	8.30	4.98	4.15	3.74
6KR8A	6.20	3.72	3.10	2.79
6KS6/6BN6	6.55	3.93	3.28	2.95
6KT6	5.95	3.57	2.98	2.68
6KT8	6.85	4.11	3.43	3.09
6KU8	5.20	3.12	2.60	2.34
6KV6A	8.90	5.34	4.45	4.01
6KV8	7.15	4.29	3.58	3.22
6KY8A	11.55	6.93	5.78	5.20
6KZ8	5.15	3.09	2.58	2.32
6L6	12.65	7.59	6.33	5.70
6L6GC	7.65	4.59	3.83	3.45
6L7	9.45	5.67	4.73	4.26
6LB6	10.75	6.45	5.38	4.84
6LB8	5.55	3.33	2.78	2.50
6LC8	5.75	3.45	2.88	2.59
6LE8	7.55	4.53	3.78	3.40
6LF8	7.35	4.41	3.68	3.31
6LJ6A/6LH6A	10.25	6.15	5.13	4.62
6LM8A	6.15	3.69	3.08	2.77
6LN8/LCF80	3.25	1.95	1.63	1.47
6LQ8	6.75	4.05	3.38	3.04
6LR6	10.25	6.15	5.13	4.62
6LR8	7.85	4.71	3.93	3.54
6LT8	5.45	3.27	2.73	2.46
6LU6	3.40	2.04	1.70	1.53
6LU8	6.05	3.63	3.03	2.73
6LW6	15.40	9.24	7.70	6.93
6LX6/6LF6	11.55	6.93	5.78	5.20
6LX8/LCF802	3.50	2.10	1.75	1.58
6LY8	5.25	3.15	2.63	2.37
6M11	9.20	5.52	4.60	4.14
6MB8	4.70	2.82	2.35	2.12
6MD8	7.35	4.41	3.68	3.31
6ME6	10.35	6.21	5.18	4.66
6ME8	8.15	4.89	4.08	3.67
6MF8	6.55	3.93	3.28	2.95
6MG8	3.15	1.89	1.58	1.42
6MJ8	7.00	4.20	3.50	3.15
6MK8A	5.85	3.51	2.93	2.64
6MN8	7.30	4.38	3.65	3.29
6MQ8	4.60	2.76	2.30	2.07
6MU8	7.05	4.23	3.53	3.18
6MV8	6.70	4.02	3.35	3.02
6N7	6.90	4.14	3.45	3.11
6N7GT	7.50	4.50	3.75	3.38
6RHH8/6KN8	8.30	4.98	4.15	3.74
6RP15	4.70	2.82	2.35	2.12
6RP22	10.75	6.45	5.38	4.84
6S4A	5.50	3.30	2.75	2.48
6SA7	6.80	4.08	3.40	3.06
6SA7GT	4.40	2.64	2.20	1.98
6SC7	7.35	4.41	3.68	3.31
6SF5	6.10	3.66	3.05	2.75
6SG7	7.65	4.59	3.83	3.45
6SH7	7.55	4.53	3.78	3.40
6SJ7	7.30	4.38	3.65	3.29
6SK7	6.75	4.05	3.38	3.04
6SL7GT	7.65	4.59	3.83	3.45
6SN7GTB	5.05	3.03	2.53	2.28
6SQ7	6.70	4.02	3.35	3.02
6T4	5.55	3.33	2.78	2.50
6T8A	$ 6.40	$3.84	$3.20	$2.88
6T9	5.80	3.48	2.90	2.61
6T10	7.05	4.23	3.53	3.18
6U5	8.35	5.01	4.18	3.76
6U8A/6AX8/ 6KD8/5KD8	4.90	2.94	2.45	2.21
6U9/ECF201	2.90	1.74	1.45	1.31
6U10	5.10	3.06	2.55	2.30
6V4/EZ80	3.10	1.86	1.55	1.40
6V6	8.85	5.31	4.43	3.99
6V6GTA	6.10	3.66	3.05	2.75
6V9/ECH200	3.15	1.89	1.58	1.42
6W4GTA	4.45	2.67	2.23	2.01
6W6GT/6DG6GT	6.25	3.75	3.13	2.82
6X4/EZ90	4.85	2.91	2.43	2.19
6X5GT	4.90	2.94	2.45	2.21
6X8A	6.10	3.66	3.05	2.75
6X9/ECF200	5.40	3.24	2.70	2.43
6Y6GA/6Y6G	6.05	3.63	3.03	2.73
6Y6GT	4.50	2.70	2.25	2.03
6Y9	5.85	3.51	2.93	2.64
6Z10/6J10	7.65	4.59	3.83	3.45
7AU7	4.20	2.52	2.10	1.89
7C5	3.65	2.19	1.83	1.65
7C7	3.70	2.22	1.85	1.67
7EY6	5.30	3.18	2.65	2.39
7F7	8.25	4.95	4.13	3.72
7F8	8.25	4.95	4.13	3.72
7GS7	4.90	2.94	2.45	2.21
7GV7	4.65	2.79	2.33	2.10
7HG8/PCF86	3.25	1.95	1.63	1.47
7KY6/9KX6	6.85	4.11	3.43	3.09
7N7	7.80	4.68	3.90	3.51
8AC10	7.30	4.38	3.65	3.29
8AL9	12.60	7.56	6.30	5.67
8AR11	8.20	4.92	4.10	3.69
8AU8, A	4.10	2.46	2.05	1.85
8AW8A	7.30	4.38	3.65	3.29
8B8	6.45	3.87	3.23	2.91
8B10	6.00	3.60	3.00	2.70
8BA8A	3.70	2.22	1.85	1.67
8BA11	7.50	4.50	3.75	3.38
8BH8	3.35	2.01	1.68	1.51
8BM11	7.65	4.59	3.83	3.45
8BN8	4.00	2.40	2.00	1.80
8BN11	6.35	3.81	3.18	2.86
8BQ5	5.05	3.03	2.53	2.28
8BQ11	6.60	3.96	3.30	2.97
8BU11	7.65	4.59	3.83	3.45
8CB11	8.60	5.16	4.30	3.87
8CM7	3.20	1.92	1.60	1.44
8CN7	3.05	1.83	1.53	1.38
8CS7	4.85	2.91	2.43	2.19
8CW5/XL86	2.95	1.77	1.48	1.33
8CX8	6.05	3.63	3.03	2.73
8EM5	5.00	3.00	2.50	2.25
8ET7	4.45	2.67	2.23	2.01
8FQ7/8CG7	3.75	2.25	1.88	1.69
8GJ7/PCF801	3.40	2.04	1.70	1.53
8GN8/8EB8	5.90	3.54	2.95	2.66
8GU7	4.35	2.61	2.18	1.96
8JU8A	4.55	2.73	2.28	2.05
8JV8	5.85	3.51	2.93	2.64
8KA8	6.35	3.81	3.18	2.86
8KR8	6.70	4.02	3.35	3.02
8LC8	5.85	3.51	2.93	2.64
8LT8	5.05	3.03	2.53	2.28
9A8/8A8/PCF80	3.10	1.86	1.55	1.40
9AH9	6.30	3.78	3.15	2.84
9AK10	6.70	4.02	3.35	3.02
9AM10	8.95	5.37	4.48	4.03
9AQ8/PCC85	7.70	4.62	3.85	3.47
9AU7	3.60	2.16	1.80	1.62
9BJ11	10.70	6.42	5.35	4.82
9BR7	3.40	2.04	1.70	1.53
9GH8A	5.55	3.33	2.78	2.50
9GV8/XC185	4.05	2.43	2.03	1.83
9JW8/PCF802	4.20	2.52	2.10	1.89
9KC6	4.70	2.82	2.35	2.12
9KZ8	3.60	2.16	1.80	1.62
9MHH3	4.25	2.55	2.13	1.92
9MN8	6.15	3.69	3.08	2.77
9MP12	4.40	2.64	2.20	1.98
9RA6	7.70	4.62	3.85	3.47
9RAL1	6.00	3.60	3.00	2.70
9U8A	5.05	3.03	2.53	2.28
10AL11	4.90	2.94	2.45	2.21
10BQ5	3.50	2.10	1.75	1.58
10C8	8.45	5.07	4.23	3.81
10CW5/LL86	2.95	1.77	1.48	1.33
10DE7	6.00	3.60	3.00	2.70
10DR7	$ 4.45	$2.67	$2.23	$2.01
10DX8/LCL84	3.25	1.95	1.63	1.47
10EG7	5.20	3.12	2.60	2.34
10EM7	5.75	3.45	2.88	2.59
10EW7	6.45	3.87	3.23	2.91
10GF7A	6.90	4.14	3.45	3.11
10GK6	5.70	3.42	2.85	2.57
10GN8	6.40	3.84	3.20	2.88
10HF8	6.55	3.93	3.28	2.95
10JA5	6.90	4.14	3.45	3.11
10JT8	6.85	4.11	3.43	3.09
10JY8	5.00	3.00	2.50	2.25
10KR8	6.80	4.08	3.40	3.06
10KU8	5.75	3.45	2.88	2.59
10LB3	4.70	2.82	2.35	2.12
10LB8	5.55	3.33	2.78	2.50
10LD6/LL802	7.35	4.41	3.68	3.31
10LE8	7.20	4.32	3.60	3.24
10LW8	7.20	4.32	3.60	3.24
10LY8	4.20	2.52	2.10	1.89
10LZ8/10JA8	5.70	3.42	2.85	2.57
10T10	8.50	5.10	4.25	3.83
10Z10	7.65	4.59	3.83	3.45
11AF9	7.10	4.26	3.55	3.20
11AR11	8.20	4.92	4.10	3.69
11BM8	6.20	3.72	3.10	2.79
11BQ11	8.20	4.92	4.10	3.69
11BT11	10.05	6.03	5.03	4.53
11CA11	12.05	7.23	6.03	5.43
11CF11	16.05	9.63	8.02	7.22
11CH11	9.55	5.73	4.78	4.30
11CY7	8.85	5.91	4.93	4.44
11DS5	5.60	3.36	2.80	2.52
11FY7	5.05	3.03	2.53	2.28
11HM7	7.15	4.29	3.58	3.22
11JE8	5.20	3.12	2.60	2.34
11KV8	7.35	4.41	3.68	3.31
11LQ8	7.20	4.32	3.60	3.24
11LT8	5.25	3.15	2.63	2.37
11MS8	5.10	3.06	2.55	2.30
11R3	4.90	2.94	2.45	2.21
11Y9/LFL200	5.20	3.12	2.60	2.34
12AB5	4.70	2.82	2.35	2.12
12AC6	2.10	1.26	1.05	.95
12AC10A	7.00	4.20	3.50	3.15
12AD6	4.60	2.76	2.30	2.07
12AE6A	3.75	2.25	1.88	1.69
12AE10	8.85	5.31	4.43	3.99
12AF3/12BR3/ 12RK19	6.55	3.93	3.28	2.95
12AL5	3.95	2.37	1.98	1.78
12AL8	6.20	3.72	3.10	2.79
12AL11	8.75	5.25	4.38	3.94
12AQ5	4.75	2.85	2.38	2.14
12AT6	3.75	2.25	1.88	1.69
12AT7/ECC81	4.25	2.55	2.13	1.92
12AU7A/ECC82	3.85	2.31	1.93	1.74
12AV5GA	7.45	4.47	3.73	3.36
12AV6/HBC91	3.10	1.86	1.55	1.40
12AV7	6.70	4.02	3.35	3.02
12AX3	4.10	2.46	2.05	1.85
12AX4GTB	4.50	2.70	2.25	2.03
12AX7A/ECC83/ 7025	3.55	2.13	1.78	1.60
12AY3A/BS3A	3.95	2.37	1.98	1.78
12AY7	6.45	3.87	3.23	2.91
12AZ7A	5.80	3.48	2.90	2.61
12B4A	5.90	3.54	2.95	2.66
12BA6	3.60	2.16	1.80	1.62
12BA7	5.90	3.54	2.95	2.66
12BD6	2.30	1.38	1.15	1.04
12BE3	4.65	2.79	2.33	2.10
12BE6/HK90	4.05	2.43	2.03	1.83
12BF6	2.75	1.65	1.38	1.24
12BF11	7.90	4.74	3.95	3.56
12BH7A	5.25	3.15	2.63	2.37
12BK5	4.05	2.43	2.03	1.83
12BL6	4.50	2.70	2.25	2.03
12BN6	4.60	2.76	2.30	2.07
12BQ6GA/12CU6	5.75	3.45	2.88	2.59
12BQ6GTB/ 12CU6	5.75	3.45	2.88	2.59
12BR3/12RK19	3.90	2.34	1.95	1.76
12BR7	3.90	2.34	1.95	1.76
12BT3	4.25	2.55	2.13	1.92
12BV11	7.70	4.62	3.85	3.47
12BY7A/12BV7/ 12DQ7	4.50	2.70	2.25	2.03
12BZ6	4.40	2.64	2.20	1.98
12BZ7	4.45	2.67	2.23	2.01
12C5/12CU5	5.85	3.51	2.93	2.64



RECEIVING TUBES

Tube Type	List Price	Net Ea., Lots of 1-5	6-10	11 Up
2CA5	$ 5.35	$3.21	$2.68	$2.41
2CL3	4.80	2.88	2.40	2.16
2CN5	3.25	1.95	1.63	1.47
2CR6	3.20	1.92	1.60	1.44
2CT3	4.85	2.91	2.43	2.19
2CX6	2.95	1.77	1.48	1.33
2D4	4.05	2.43	2.03	1.83
2DB5	3.45	2.07	1.73	1.56
2DK6	2.30	1.38	1.15	1.04
2DQ6B/12GW6	7.00	4.20	3.50	3.15
2DS7	6.40	3.84	3.20	2.88
2DT5	3.65	2.19	1.83	1.65
2DT8	4.90	2.94	2.45	2.21
2DW7	3.35	2.01	1.68	1.51
2DY8	7.95	4.77	3.98	3.58
2ED5	3.10	1.86	1.55	1.40
2EG6	3.70	2.22	1.85	1.67
2EK6/12DZ6/ 12EA6	4.25	2.55	2.13	1.92
2EQ7	2.75	1.65	1.38	1.24
2F8	3.90	2.34	1.95	1.76
2FK6	2.75	1.65	1.38	1.24
2FM6	2.60	1.56	1.30	1.17
2FQ7	4.55	2.73	2.28	2.05
2FQ8	5.85	3.51	2.93	2.64
2FV7	3.40	2.04	1.70	1.53
2FX5	4.45	2.67	2.23	2.01
2FX8A	4.10	2.46	2.05	1.85
2GB3	9.35	5.61	4.68	4.21
2GC6	6.25	3.75	3.13	2.82
2GE5	7.05	4.23	3.53	3.15
2GJ5A	4.90	2.94	2.45	2.21
2GT5	7.10	4.26	3.55	3.20
2H6	5.90	3.54	2.95	2.66
2HE7	9.05	5.43	4.53	4.08
2HG7/12GN7A	7.00	4.20	3.50	3.15
2HL7	6.15	3.69	3.08	2.77
2J5GT	5.20	3.12	2.60	2.34
2J8	4.70	2.82	2.35	2.12
2JB6A	8.50	5.10	4.25	3.83
2JN6	5.30	3.18	2.65	2.39
2JN8	3.95	2.37	1.98	1.78
2JQ6	5.90	3.54	2.95	2.66
2JT6A	6.75	4.05	3.38	3.04
2K5	3.70	2.22	1.85	1.67
2L6GT	4.65	2.79	2.33	2.10
2MD8	5.90	3.54	2.95	2.66
2R5	3.60	2.16	1.80	1.62
2SA7A	6.80	4.08	3.40	3.06
2SC7	5.20	3.12	2.60	2.34
2SG7	6.40	3.84	3.20	2.88
2SJ7	5.85	3.51	2.93	2.64
2SK7	7.20	4.32	3.60	3.24
2SL7GT	7.70	4.62	3.85	3.47
2SN7GTA	5.85	3.51	2.93	2.64
2SQ7	6.70	4.02	3.35	3.02
2T10	7.80	4.68	3.90	3.51
2V6GT	6.10	3.66	3.05	2.75
2W6GT	6.65	3.99	3.33	3.00
2X4	3.15	1.89	1.58	1.42
3CW4	8.55	5.13	4.28	3.85
3DE7	5.85	3.51	2.93	2.64
3DR7	6.95	4.17	3.48	3.13
3EM7/15EA7	8.35	5.01	4.18	3.76
3FD7	6.40	3.84	3.20	2.88
3GB5/XL500	4.70	2.82	2.35	2.12
3GF7A	6.55	3.93	3.28	2.95
3JZ8	7.80	4.68	3.90	3.51
3V10	9.20	5.52	4.60	4.14
3Z10/13J10	8.50	5.10	4.25	3.83
4BL11	10.35	6.21	5.18	4.66
4BR11	8.20	4.92	4.10	3.69
4GT8	5.35	3.21	2.68	2.41
4JG8	5.25	3.15	2.63	2.37
5AF11	6.90	4.14	3.45	3.11
5BD11A	7.50	4.50	3.75	3.38
5CW5/PL84	2.90	1.74	1.45	1.31
5DQ8/PCL84	4.05	2.43	2.03	1.83
5FM7/13FM7	5.45	3.27	2.73	2.46
5FY7	5.00	3.00	2.50	2.25
5KY8A	9.15	5.49	4.58	4.12
5LE8	7.65	4.59	3.83	3.45
5MF8	6.35	3.81	3.18	2.86
6A8/PCL82	4.10	2.46	2.05	1.85
6AK9	12.65	7.59	6.33	5.70
6AQ3/XY88	3.20	1.92	1.60	1.44
6BQ11	6.40	3.84	3.20	2.88
6BX11	7.50	4.50	3.75	3.38
6GK6	3.60	2.16	1.80	1.62
6GY5	6.60	3.96	3.30	2.97
6LU8A	9.90	5.94	4.95	4.46
17AB10/17X10	$ 7.50	$4.50	$3.75	$3.38
17AX3	3.55	2.13	1.78	1.60
17AX4GTA	4.85	2.91	2.43	2.19
17AY3A/17BS3A	5.05	3.03	2.53	2.28
17BB14	9.80	5.88	4.90	4.41
17BE3/17BZ3	5.05	3.03	2.53	2.28
17BF11	7.50	4.50	3.75	3.38
17BQ6GTB	5.20	3.12	2.60	2.34
17BR3/17RK19	4.10	2.46	2.05	1.85
17BW3	3.95	2.37	1.98	1.78
17C9	8.50	5.10	4.25	3.83
17CK3	4.35	2.61	2.18	1.96
17CT3	3.60	2.16	1.80	1.62
17CU5/17C5	4.20	2.52	2.10	1.89
17D4/17DM4A	5.50	3.30	2.75	2.48
17DE4	4.45	2.67	2.23	2.01
17DQ6B/17GW6	7.55	4.53	3.78	3.40
17EW8/HCC85	3.25	1.95	1.63	1.47
17GE5	5.90	3.54	2.95	2.66
17GJ5A	8.25	4.95	4.13	3.72
17GT5A	7.55	4.53	3.78	3.40
17GV5	5.70	3.42	2.85	2.57
17HB25	8.25	4.95	4.13	3.72
17JB6A	8.00	4.80	4.00	3.60
17JF6	9.20	5.52	4.60	4.14
17JM6	8.05	4.83	4.03	3.63
17JM6A	8.05	4.83	4.03	3.63
17JN6	7.20	4.32	3.60	3.24
17JQ6	5.75	3.45	2.88	2.59
17JT6A	7.65	4.59	3.83	3.45
17JZ8	4.50	2.70	2.25	2.03
17KV6A	9.70	5.82	4.85	4.37
17Z3/PY81	4.75	2.85	2.38	2.14
18A5	6.00	3.60	3.00	2.70
18AJ10	7.15	4.29	3.58	3.22
18FW6A	2.95	1.77	1.48	1.33
18FX6A	3.60	2.16	1.80	1.62
18FY6A	3.60	2.16	1.80	1.62
18GB5/LL500	6.10	3.66	3.05	2.75
18GD6A	3.55	2.13	1.78	1.60
18GV8/PCL85	5.50	3.30	2.75	2.48
18RAL1	5.90	3.54	2.95	2.66
19AU4GTA	5.90	3.54	2.95	2.66
19BG6GA	6.65	3.99	3.33	3.00
19CG3	4.95	2.97	2.48	2.23
19DE3	6.20	3.72	3.10	2.79
19DK3	6.55	3.93	3.28	2.95
19DQ3	7.10	4.26	3.55	3.20
19EA8	5.45	3.27	2.73	2.46
19EZ8	7.90	4.74	3.95	3.56
19GQ7	4.10	2.46	2.05	1.85
19HR6	2.70	1.62	1.35	1.22
19HS6	2.55	1.53	1.28	1.15
19HV8	6.75	4.05	3.38	3.04
19JN8/19CL8A	5.50	3.30	2.75	2.48
19KG8	3.35	2.01	1.68	1.51
19T8	8.30	4.98	4.15	3.74
20AQ3/LY88	3.90	2.34	1.95	1.76
20EZ7	4.05	2.43	2.03	1.83
20LF6	11.60	6.96	5.80	5.22
21GY5	6.30	3.78	3.15	2.84
21HB5A	6.05	3.63	3.03	2.73
21JS6A/23JS6A	14.35	8.61	7.18	6.46
21JV6	6.35	3.81	3.18	2.86
21JZ6	6.65	3.99	3.33	3.00
21KA6	6.10	3.66	3.50	2.75
21KQ6	12.75	7.65	6.38	5.74
21LG6A	10.30	6.18	5.15	4.64
21LR8	5.95	3.57	2.98	2.68
21LU8	6.20	3.72	3.10	2.79
22BH3A	3.75	2.25	1.88	1.69
22BW3	5.50	3.30	2.75	2.48
22DE4	5.70	3.42	2.85	2.57
22JF6	8.85	5.31	4.43	3.99
22JG6A	9.20	5.52	4.60	4.14
22JR6	8.60	5.16	4.30	3.87
22JU6	9.30	5.58	4.65	4.19
22KM6	10.25	6.15	5.13	4.62
22KV6A	8.70	5.22	4.35	3.92
23Z9	6.00	3.60	3.00	2.70
24BF11	7.50	4.50	3.75	3.38
24JZ8	5.85	3.51	2.93	2.64
24LQ6/24JE6C	10.65	6.39	5.33	4.80
25AV5GA	8.30	4.98	4.15	3.74
25AX4GT	3.55	2.13	1.78	1.60
25BB14	9.80	5.88	4.90	4.41
25BK5	3.70	2.22	1.85	1.67
25BQ6GA/25CU6	6.05	3.63	3.03	2.73
25BQ6GTB/CU6	6.05	3.63	3.03	2.73
25C5	5.05	3.03	2.53	2.28
25CA5	3.60	2.16	1.80	1.62
25CD6GB	$ 9.10	$5.46	$4.55	$4.10
25CG3	4.60	2.76	2.30	2.07
25CT3	3.40	2.04	1.70	1.53
25DL3	7.10	4.26	3.55	3.20
25DN6	9.35	5.61	4.68	4.21
25E5/PL36	7.85	4.71	3.93	3.54
25EC6	10.10	6.06	5.05	4.55
25EH5	5.00	3.00	2.50	2.25
25F5A	4.50	2.70	2.25	2.03
25HX5	6.40	3.84	3.20	2.88
25JZ8	6.15	3.69	3.08	2.77
25L6GT/ 25W6GT	5.05	3.03	2.53	2.28
25W4GT	3.70	2.22	1.85	1.67
25Z6GT	5.50	3.30	2.75	2.48
26HU5	12.95	7.77	6.48	5.83
26LW6	13.75	8.25	6.88	6.19
26LX6	12.35	7.41	6.18	5.56
27GB5/PL500	4.40	2.64	2.20	1.98
27LF6	8.50	5.10	4.25	3.83
29GK6	3.60	2.16	1.80	1.62
29KQ6/PL521	11.75	7.05	5.88	5.29
29LE6	6.40	3.84	3.20	2.88
30AE3/PY88	3.90	2.34	1.95	1.76
30AG11	7.90	4.74	3.95	3.56
30JZ6	7.65	4.59	3.83	3.45
30KD6	9.75	5.85	4.88	4.39
31AL10	12.55	7.53	6.28	5.65
31JS6C	9.10	5.46	4.55	4.10
31LQ6	10.15	6.09	5.08	4.57
31LR8	10.85	6.51	5.43	4.89
31LZ6	11.25	6.75	5.63	5.07
32ET5A	3.60	2.16	1.80	1.62
32HQ7	11.90	7.14	5.95	5.36
33GT7	9.20	5.52	4.60	4.14
33GY7A	8.05	4.83	4.03	3.63
33JV6	5.75	3.45	2.88	2.59
34CE3/34CD3	5.35	3.21	2.68	2.41
34GD5A	3.55	2.13	1.78	1.60
34R3	4.05	2.43	2.03	1.83
35B5	3.45	2.07	1.73	1.56
35C5	4.35	2.61	2.18	1.96
35EH5	4.60	2.76	2.30	2.07
35GL6	2.90	1.74	1.45	1.31
35L6GT	6.70	4.02	3.35	3.02
35LR6	10.25	6.15	5.13	4.62
35W4	2.60	1.56	1.30	1.17
35Y4	4.95	2.97	2.48	2.23
35Z5GT	4.70	2.82	2.35	2.12
36AM3B	3.05	1.83	1.53	1.38
36KD6/49KD6	11.20	6.72	5.60	5.04
38HE7	9.20	5.52	4.60	4.14
38HK7	9.00	5.40	4.50	4.05
40KG6A/PL509	10.85	6.51	5.43	4.89
42	5.00	3.00	2.50	2.25
42EC4A/PY500	5.25	3.15	2.63	2.37
42KN6	9.15	5.49	4.58	4.12
43	7.20	4.32	3.60	3.24
45B5/UL84	2.80	1.68	1.40	1.26
50A5	5.85	3.51	2.93	2.64
50B5	4.05	2.43	2.03	1.83
50BM8/UU82	4.35	2.61	2.18	1.96
50C5	3.85	2.31	1.93	1.74
50DC4	3.35	2.01	1.68	1.51
50EH5	4.90	2.94	2.45	2.21
50FE5	4.45	2.67	2.23	2.01
50HK6	2.85	1.71	1.43	1.29
50JY6	7.00	4.20	3.50	3.15
50L6GT	6.50	3.90	3.25	2.93
50Y6GT	5.05	3.03	2.53	2.28
53HK7	11.45	6.87	5.73	5.16
60FX5	3.60	2.16	1.80	1.62
80	5.85	3.51	2.93	2.64
117Z3	5.35	3.21	2.68	2.41
5879	6.65	3.99	3.33	3.00
6267/EF86	2.80	1.68	1.40	1.26
6973	6.15	3.69	3.08	2.77
7027A	9.10	5.46	4.55	4.10
7189A	5.75	3.45	2.88	2.59
7199	6.85	4.11	3.43	3.09
7247	5.10	3.06	2.55	2.30
7355	6.35	3.81	3.18	2.86
7408	3.95	2.37	1.98	1.78
7543	3.55	2.13	1.78	1.60
7581A/KT66	9.40	5.64	4.70	4.23
7591A	3.30	1.98	1.65	1.49
7695	5.20	3.12	2.60	2.34
7868	6.85	4.11	3.43	3.09
8417	6.70	4.02	3.35	3.02
8425A/6AU6A	3.75	2.25	1.88	1.69
8426A/12AU6	4.60	2.76	2.30	2.07

INDUSTRIAL TUBE CROSS REFERENCE

LIST DOES NOT INCLUDE CATHODE RAY TUBES

KEY TO MANUFACTURERS

1—Amperex Electronic Corp.
2—Cetron Electronic Corp.
3—DuMont Laboratories (Division of Fairchild)
4—Eitel-McCullough, Inc. (Eimac)
5—Electrons, Inc.
6—General Electric Co. (GE)
7—General Electronics, Inc.
8—International Electronics Sales Corp. (Mullard)
9—International Telephone and Telegraph Corp. (ITT)
10—National Electronics, Inc. (A Subsidiary of Eitel-McCullough, Inc.)
11—National Union Electric Corp.
12—Penta Laboratories, Inc.
13—Radio Corp. of America (RCA)
14—Raytheon Co.
15—Sylvania Electric Products, Inc.
16—Thermosen, Inc. (Kalotron)
17—Tung-Sol Electric Inc.
18—United Electronics Co.
19—Victoreen Instrument Co.
21—Westinghouse Electric Corp.

*KEY TO TUBE CLASSIFICATIONS

A—Diode or twin diode
B—Triode or twin triode (Glow discharge triodes included)
C—Tetrode or twin tetrode
D—Pentode
E—Hexode
F—Heptode
G—Multisection combinations
I—Beam power (Single or twin)
J—Magnetron
K—Klystron
L—Ignitron
M—Thyratron
N—Voltage regulator
O—Rectifier
P—Geiger counter
Q—Transmitting
R—Computer storage
S—Photo
T—Indicator (Tuning, readout, etc.)
V—TV camera tube
X—Misc. specialized types

NOTE: I. Tube types like 2E31, 32, 35, 36, etc. indicate 2E31, 2E32, 2E35, 2E36 are all available. II. Tube type like 6166A, 7007 indicates the entire number is used in a single tube marking. III. The manufacturer may or may not use the entire number listed here in their marking on a single tube. Tube types with identical numerical designations, however, are generally similar. IV. Tube types no longer in production are not included in this listing.

Tube Type	*	Mfrs.	Tube Type	*	Mfrs.	Tube Type	*	Mfrs.	Tube Type	*	Mfrs.	Tube Type	*	Mfrs.
OA2	N	1, 6, 8, 13-15, 17, 21	TBL2/500	B	1	3B28	O	1, 2, 6-8, 13, 15, 17, 21	4CX1000A, K	C	4	6AU6WB	D	13,15,17
			2-01C, -25A	O	4, 15				4CX3000A	C	4	EL6B	O	2, 5
			2-50A	O	4				4CX5000A	C	4, 21	EL6B/L	O	5
OA2WA	N	8, 13-15, 17	2-150D	O	4, 15	3B29	A	7, 14, 17, 18	4CX5000R, 10000D, 15000A, 35000C			6BF	B	2
			2-240A	O	4							6BF7W	B	15
OA3, /VR75	N	6, 7, 13-15,17,21	2-450/A	O	3, 4, 7	3B29W	A	7, 18				6BL6	K	14, 15
			2-2000A	O	4	GV3B Series	N	19		C	4	6BM6, 6BM6A	K	14, 15
OA3A, /OA3	N	13, 14	2AC15	A	16	CE3C	S	2	4D21/4-125A	C	6, 12, 17, 21	6C	O	2, 5
OA4G	M	6, 13-15, 17	2AS15, A	A	16	EL3C	O	5				GV6C Series	N	19
			2B4	B	3	3C23	M	1, 2, 6, 7, 10, 13-15, 17, 21	4D21A	C	12	6C4W	B	14, 15
OA5	M	15	GL2B22, 23	A	6				RK4D22, 32	C	14	6C4WA	B	6, 15
OB2	N	1, 6, 8, 13-15, 17, 21	CE2C	S	2				4E27A/5-125B	I	4, 12, 13, 15, 21	6C21	B	4
			2C36, 2C37	Q	15	3C24, /24G	B	4, 7				6CF	O	2, 5
			2C39A	B	4, 6, 8, 13-15, 17, 21	3C33	B	13	EL-C4H-1 to 5	M	5	6CL	O	5
OB2WA	N	8, 13-15, 17				3C45, W	M	8, 9	RK4J31 to RK4J41	J	14	6D4	M	6, 8, 15, 17
						EL3CF, 3C/L	O	5						
OB3, /VR90	N	6, 7, 14, 15,17,21	2C39B	Q	6, 8, 15, 21	3CPN10A5	B	4	4J50, 52A, 78		8	6DJ8	B	6, 15
						3CPX100A5	B	4	4PR60, B	C	4, 7, 18	EL6F	O	5
OB3A/OB3	N	14	2C39WA	B	4, 6, 13-15	3CV30,000A3	B	4	4PR65A, 125A	C	4	6F4	B	13
OC2	N	13, 14				3CW20,000A1, A3, A7			4PR250C	C	4	C6H-1 to -3	M	5, 21
OC3, /VR105	N	6, 7, 13-15,17,21	2C40	B	6, 13-15, 21		B	4	4PR400A	C	4	EL6H-4, -5	M	5
						3CW25,000A3	B	4	4PR1000A	C	4	6H6WGT	A	17
OC3A, /OC3	N	13, 14	2C40A	B	6, 13, 14	3CX100A5	B	4, 6, 17	GV4S Series	N	19	C6J	M	2, 5, 10, 14
OC3W	N	14, 17	2C41	B	14, 15	3CX100F5	B	4	4W300B	C	4			
OD3, /VR150	N	6, 7, 13-15,17,21	GL2C42	B	6	3CX1000A7	B	4	4W20000A	C	4	C6J/5C21	M	13
			2C43	B	6, 13, 15	3CX2500A3, F3			4X150A	C	1, 4, 6, 8, 14, 16, 17, 21	C6J/A/5685	M	5, 13, 15
OD3A, /OD3	N	13, 14	GL2C46	B	6		B	4				C6J/F	M	2, 5
OD3W	N	14, 17	2C51, /396A	B	15, 17	3CX10,000A1, 3, 7						C6J/K	M	2, 5, 10, 14
OE3, /85A1	N	1, 8	2C53	B	7, 11, 15		B	4	4X150D	C	1, 4, 8, 14			
OG3, /85A2	N	1, 8, 17	2CL40A	A	16	3CX15,000A3	B	4				C6J/K-Ne	M	10, 14
OZ4A/CK1003	O	13-15	CE2D	S	2	3D21WB	X	17	4X150G	C	4	ELC6J/KF	M	2, 5
C1A	M	2, 5	2D21, /R6200	M	1, 6, 8, 13-15, 17, 21	3D22A	M	13	4X150R/8296	C	4	C6J/KL	M	5
CE1A/B	M	2				3E29	I	8, 13, 15	4X150S/8297	C	4	C6J/KP	M	10, 14
VG1A	B	3, 15				3E29A	I	13	WL4X250A	C	21	C6J/L	M	5, 10, 14
1AD4	D	6, 8, 14, 17	2D21W	M	8, 13	C3J/5632	M	2, 5, 13, 15	4X250B	C	1, 4, 8, 14, 15	C6J/P	M	10, 14
			2E22	D	17							6J4	B	6, 13-15, 17
1AE4	D	14	2E24	I	6, 13, 15, 17, 21	C3JA/5684	M	5, 13, 15	4X250F	C	1, 4			
1AG4	D	6, 14				C3J/L	M	5, 10, 13, 14	4X500A	I	1, 4, 6, 12, 13, 15, 21	6J4WA	B	8, 13, 15, 17
1AG5	G	14	2E26	I	6, 8, 13-15, 17, 21									
1AH4	D	6, 17				C3J/AL	M	5, 10, 14				6J5WGT	B	14
1AJ5		6	2E31, 32, 35, 36	D	14	C3J/AL-Ne	M	10, 14	CR5	M	2	6J6WA	B	13, 15
1AK4	D	14				C3P14, C3R14	M	2	XD5	B	3	6L6WGB	D	17
EL-C1B, /A	M	2, 5	2G21, 2G22	G	14	GV3, S Series	N	19	5A6, /RT533	D	14, 17	C6M	M	2, 6
1B85	P	19	2FY5	B	1	3V4WA	D	17	GV5A Series	N	19	6Q5G	B	3
CE1C	S	2	GL2H21	V	6	3W5000A1, A3	B	4	GV5B Series	N	19	6SJ7WGT	D	15
EL1C	O	5	2J42	J	8, 14, 15	3W5000F1	B	4, 15	EL5BHD, Std	O	5	6SJ7Y	D	13
1C21	B	13	2J42A	J	8	3W5000F3	B	4	5C21/C6J	M	21	6SK7WA	D	6
CE1D	S	2	RK2J42H, RK2J49	J	14	3X2500A3, F3	B	4, 21	5C22	M	9, 17	6SL7WGT	B	15, 17
1D21/SN4	X	6, 15				3X3000A1	B	4, 15	5C25		8	6SN7WGT	B	14, 15, 17
C1J, /A	M	5	2J51A		8, 14	3X3000A7	B	4	5D21	C	7	6SN7WGTA	B	15, 17
C1K/6014	M	2, 5, 13, 15	RK2J55		14	3X3000F1, F7	B	4	5D22/4-250A	C	12, 17, 21	6SU7GTY	B	17
			2J56		8	4-65A	I	1, 4, 6, 8, 14, 17, 21	5DC5/M	A	16	6V6GTY	D	15
EL-C1K, /B	M	2, 5	RK2J56A		14				RK5J26	J	14	6X4W	A	13-15, 17
1K20-SDS, -XDA,-XFB, -XNA	K	4	RK2J66, 67, 70A	J	14	4-125A/4D21	I	1, 4, 13-15, 18	5MD5	A	16			
			RK2K22	K	14				5R4GYA	O	6, 14	6X4WA	A	15, 17
1K75CH, CK, CLA, CS	K	4	2K25	K	8, 14	4-250A/5D22	I	1, 4, 6, 13-15, 18	5R4GYB	A	1, 6, 13-15, 17, 21	6X5WGT	A	14, 15, 17
			2K26	K	8, 13, 14							7AK7	D	14, 15
1L4	D	13	RK2K28	K	14	4-400A	I	1, 4, 6, 12-15, 17, 18, 21	5R4WGA	O	14, 17	7C23, 25	B	3, 9
GL1L21, 33, 36, 38	Q	6	RK2K28A/6133	K	14				5R4WGB	O	14	F7C26	B	9
1M3/DM70	T	1, 8	RK2K29, 33B, 45, 48, 56	K	14	4-1000A	I	4, 6, 17, 21	5R4WGBM	O	17	GL7C29	B	6
1P21	S	6, 13	2SM15	A	16	WL4B24/3C	O	21	5R4WGY	O	17	GL7D21	C	6
1P22	S	13	2X2A	O	6, 13-15, 17, 21	4B31	O	2, 14	5Y3WGTA	A	15	7F8W	B	15
1P23	S	14				4B32	O	1, 2, 7, 8, 17	PE06/40N	I	1	7RP4		6
1P28, 29	S	13	2X1000A, 3000F	O	4, 15	CE4C	S	2	C6A	M	5	F8C25A	B	9
1P30 to 1P33	S	14							GV6A Series	N	19	8CV50		14
1P35, 36	S	14							6AC7W	D	13	8D21	C	13
1P37	S	13, 14, 17	3-400Z, 1000Z	B	4	4C22		7	6AC7WA	D	6	8DC15	A	16
1P39, 40	S	6, 13-15, 17, 21	3A4	D	13-15, 17	4C35	M	8	6AD4	B	15	8DS15	A	16
1P41	S	13, 14, 17, 21	3A5	B	13-15, 17	4C35A	M	9, 14	6AG7Y	D	13	GV9A Series	N	19
			GV3A Series	N	19	4CN15A, L	C	4	6AH6WA	D	14, 15, 17	XD9	X	3
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1T4WA	D	14	3B24W	O	6, 7, 14, 18	4CX250B, F	C	1, 4	6AN5	D	6, 14, 17	VX10	X	19
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12AX7WA	B	17
12AY7	B	6,14,15, 17, 21
12J5WGT	B	14
12SW7	G	13
12SY7	F	13
1KU15	M	9
1L6B, F	O	5
1LC16H, J	M	5
1LC16J/5665	M	13, 15
1LFG17	Q	7
1LHV18	B	7, 18
1LXD18R, W	A	3
1MG19	. .	14
1MFV20	B	18
1MGI-21	T	11
1MKY21A	M	2, 4, 10, 14
1RX21A	O	2, 4, 10, 14, 15
1SXD22R, W	A	3
1SKU23	B	7, 18
1SCE23C	S	2
1SCE25C, 25D	S	2
1SCE25VC	S	2
1SCEB25A/B, C	. .	2
1SKU25	M	9
1SVC25/20	X	1
1SVC25/32	X	1
25T	B	4, 15
25Z6WGT	O	17
26A6	D	13
26A7GT	I	13
26E26C	S	2
26C6	G	13
26D6	F	13
26E6WG	D	17
26Z5W	A	17
2KU27	M	9
2FG27A	M	6
2XD27R, W	A	3
2KU28	M	9
28D7	D	6, 15
28D7	D	15
28D7W	D	15
2CE29R, -30C, -30D	S	2
2CE30V-A/B	S	2
2CE30VC	S	2
2XD31	A	3
2A33	. .	6
2CE34Q, R	S	2
2F5T	B	4, 7, 18
2F5TG	B	4
2CE36C	S	2
2P37	S	2
2CE38, E39	M	9
2P39	S	2
2P40	S	2
2T40	B	2, 14
2TZ40	B	2, 14
2P41	S	2
2M42 Series	N	19
2CE43V, 44V	. .	2
2M45 Series	N	19
2KU47, 48	M	9
2XD-47, -49R, W	A	3
2VC50/20	X	1
2VC50/32	X	1
2KU51	A	9
2R51AV	. .	14
2M1UVP, 52AVP	S	1
2A3	B	3, 17
2CA53	A	1
2M3AVP, 53UVP	S	1
2XD53	A	3
2KU54	M	9
2M4AVP	S	1
2T55	B	2
2VX55	B	19
2M6AVP	S	1
2M6CVP, TVP	S	1
2M6UVP	S	1
2XD56	A	3
2VR57	N	19
2M7AVP	S	1
2M8AVP	S	1
2M8UVP	S	1
2CEA59-RX	S	2
2EFP60	D	1
2IF60	B	2
2AK60	S	21
2T60	B	2
2VX62, VX64	N	19
2XD64R, W	A	3
2XD66R, W	A	3
2VX68	O	19
2VX69	X	19
2W70D	B	18
2WR71AV	. .	14
2WKU72Z	M	9
2W75N, 75NB3	P	1
2W75TH, 75TL	B	4
2WCE75V	S	2
2W76NB3	P	1
2WX80	O	18
2W80N, NB3	P	1
2WKU81	M	9
2W81A	M	6, 21
2W83	O	6, 13, 17
2WCE84R	S	2
2W85NB3	P	1
2WCE86C	S	2
2W90C1	N	1
2W90NB3, 4	P	1
2W90NS	P	1
2WKU91	A	9
2WCE92	S	2
2W92	. .	14
2WE92CC	B	1
2W95V	. .	14
2WFG97	M	6, 14
2WFG98A	M	6
2WKU99	M	9
2W100	B	7, 18
2WVC100/20	X	1
2WVC100/32	X	1
2W100C, CB, HB	P	1
2W100IG	B	4
2W100LB, NB	P	1
2W100TH	B	4, 7, 15
2W100TL	B	4, 7
2WNUP102	X	11
2W102A	A	14,15,21
2W105	M	13, 21
2WFG105	M	1, 6, 10, 14
2WM105 Series	N	19
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2WM108 Series	N	19
2WWL108	X	21
2WF110X	K	9
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2WFT118	X	15
2WNUP118	X	11
2W120	X	7, 11
2W120C, N, NB	P	1
2W121	V	14, 21
2W122 to 124	. .	21
2WF124A, R	B	9
2WF125	B	9
2WM126 Series	N	19
2WWL-126	. .	21
2WM128 Series	N	19
2WF129B, R	B	9
2WNU131	B	11
2WF134	B	9
2WML141, ML142	. .	14
2W150AVP, CVP	S	1
2W150B2/6354	O	1
2W150N, 150NB	P	1
2W150UVP	S	1
2W152AVP	S	1
2W152TH, 152TL	B	4
2W153AVP	S	1
2W153C	P	1
2W153UVP	S	1
2WFG154	M	6
2WNU154	B	11
2W155N	P	1
2W160G	P	1
2W161G, 171G	P	1
2W172	M	6, 13, 21
2WPL175A	D	12
2WWL-177	D	21
2WPL177A	D	12
2WPL177WA	D	12
2WWL187, WL191	. .	21
2WPL195	D	12
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2WT200	B	2, 14
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2W200C, CB, HB, LB, N, NB	P	1
2W201	. .	5
2W201A	O	2
2WHF201A	B	17
2WML202A	X	15
2W202B, 203	O	2
2WFW204	R	9
2W205	O	2
2W206	O	2
2W207	B	2, 13, 21
2WFW208	R	9
2W210A	O	2
2WFW211	R	9
2W211D	B	2
2W211W	B	7, 18
2WFW212	R	9
2W212E	B	9, 14
2W213A	O	2
2W217C	A	7, 18
2WFT218	X	15
2W220/72	O	2
2WSK220A-G, Z	K	15
2WF-220C, CA	B	9
2WSK221A-H, K	K	15
2WML222A	. .	14
2WSK222A-G, Z	K	15
2WFW223, -227	R	9
2W230NB	P	1
2WFW235	R	9
2WFW241	R	9
2W241B	B	14
2W242C	B	7, 18
2W249C	O	2
2WVC250/32	X	1
2W250R	A	4, 7, 12
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2W250TL	B	4, 7
2W253	A	4
2WPL254W	B	12
2W258B	O	2
2WAX260	M	1
2W265	B	7, 18
2W279A	B	14, 15
2WFG280	A	6
2WX282	X	9
2WQKK288 to QKK295	K	14
2WML298A	B	14
2WHF300	B	1, 7, 17
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2WZ303C	X	1
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2WX320	X	9
2W320A/6011	M	2
2WML322	A	4, 14
2W323B	M	2, 7, 10, 14, 17
2WF328A	B	9
2WQK329	X	14
2W338A	M	17
2WF342A	B	9
2WML342A, AA	B	14
2WF343A, AA	B	9
2WX354	B	9
2WML354	B	14
2WML356, /5771	B	1, 14
2WML357B	B	14
2WX368	X	9
2WX370	X	9
2W371B	O	2, 3, 7, 17, 18
2WQKK381	B	14
2WX388 to X393	G	9
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2WX394	X	9
2W394A	M	7, 17
2WX395	X	9
2W395A	M	17
2WX396 to 399	G	9
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2W400PC	. .	1
2WX401	X	9
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2W405B	M	17
2W407A	B	6, 13, 15, 17
2W408A	D	6, 13, 15
2WBM411	. .	14
2WGL411	O	6
2WQKK411A	R	14
2WQKK412	K	14
2WS413	X	15
2W414	M	6, 21
2W417A	B	17
2W421A	B	17
2W426A	M	17
2W450TH	B	4, 21
2W450TL	B	4, 15
2WQKH456, /332	A	14, 21
2WQKK463, A	K	14
2WQK464A/6835	. .	14
2W468	B	2, 7, 18
2WML471	V	14
2WKU472	M	9
2W481B	O	15,17,21
2WLX500A	. .	8
2W500N	. .	1
2WCK501X	D	14
2WSS501	X	15
2W501N	. .	1
2W501R	B	1
2W502A	M	6, 13-15, 21
2W502N	. .	1
2WZ502S	X	1
2W504R	B	1
2W505N	. .	1
2WCK506AX	. .	14
2W506N, 507N	. .	1
2WCK510AX	C	14
2WCK512AX	D	14
2WGM514, C	X	15
2WML518	D	14
2WMLS-522B	V	14
2WCK526AX	D	14
2WCK527AX	D	14
2WPL527A/185	. .	12
2WQKK531, 532	D	14
2WCK533AX	D	14
2WCK534AX	. .	14
2W541	A	18
2W543	O	7, 18
2W545/3BAP7	O	7, 14, 18
2WCK547DX	D	14
2W549	O	7, 14, 18
2WZ550M	X	1
2W554, 558	O	7, 18
2W561	O	3, 7, 18
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2W589	A	7, 18
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2W606, L	O	10, 14
2W610, /7723	O	10,14,21
2W613/304	X	21
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2W616	O	10, 14
2W616L, 617	O	10, 14
2WKU618	M	21
2W619	O	10, 14
2WSYT620B	X	15
2W623	O	10, 14
2WQKK623	K	14
2W624	M	21
2W625	A	10, 14
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2W628	M	15, 21
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2W635P, /6930	O	10, 14
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2WKX642	X	21
2W643	O	10, 14
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2WCK658, 659	. .	14
2W660, L/7786, P	O	10, 14
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2W673	O	1, 2, 6, 7, 9, 10, 13-15, 17, 18, 21
2WSYK720A-G,Z	K	15
2WSYK722A-G,Z	K	15
2W723A/B	. .	8
2WRK725A	. .	14
2WRK726B, C	K	14
2WQKH729	. .	14
2WQKH730, 731	. .	14
2W732	M	10, 14
2WQKH732	J	14
2WQKH733	. .	14
2W734/5544	M	10, 14
2W734/CE-1VC	S	14
2WNL734L	M	10, 14
2W740, L	M	10, 14
2W740P, 741	M	10, 14
2W750TL	B	4
2WQKK752, 753, 754, 756	K	14
2W759	M	21
2W760, /6858	M	10,13-15
2W760L	M	10,14,15
2W760P	M	10, 14
2W761, L	M	10, 14
2W762	X	21
2WWL765, A	X	21
2WQK767/3BCP7	S	14
2W770L, P	M	10, 14
2W778, L, P	M	10, 14
2W780	M	10, 14
2WQK787/7575	. .	14
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2W807	I	1, 6, 8, 13-15, 17, 21
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2W809	B	6, 7, 13, 21
2W810	B	1, 2, 6, 7, 13-15, 17,18,21
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2W813	I	1,6,7,13-15,17,21
2W814	I	2, 13, 14
2W815	I	6, 13, 15, 21
2W816	O	2, 6, 13-15,17,21
2W822	B	2
2W827R	I	13
2W828	I	1, 6, 13-15
2W829B	I	1, 6, 8, 13-15, 17, 21
2W830	B	7, 18
2W830B	B	2, 7, 13, 18
2W832A	I	1, 6, 13-15, 21
2W833A	B	1, 6, 13-15,17,21
2W834	B	1, 13
2W836	O	6, 7, 13, 21
2WS836	X	15
2W837	D	13, 14
2W838	B	1, 6
2WK839B	K	15
2WS840	X	15
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2W845W	B	7, 18
2W849, A	B	1
2WGL851	Q	6, 7
2WS852	X	15
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2W860	C	7, 14, 18
2W862A	B	6, 9
2W866A	O	6, 7, 13-15,17,21
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2W866JR	O	2, 14
2W868, /PJ23	S	2, 6, 13, 14,17,21
2W869B	O	1, 6, 9, 10, 13, 15,17,21
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2W869BL	O	1, 21
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891	B	9, 13, 14, 21
891R	B	1, 9, 13, 14, 21
892	B	1, 6, 9, 13, 14, 17, 21
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895, R	B	21
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917	S	13, 14, 21
918, 919	S	2, 13, 14, 17
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921	S	13, 15, 17, 21
922	S	13-15, 17, 21
923	S	2, 6, 13-15, 17, 21
925, 926	S	13
927	S	2, 6, 13-15, 17, 21
928	S	13
929	S	2, 6, 13-15, 17
930	S	2, 6, 13-15, 17, 21
931A	S	6, 13-15, 21
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935	S	13
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R4336, R4337	X	15
R4340, R4350	X	15
4401-V1	V	13
4402 to 4404	S	13
4409	S	13
4412	X	13
4413	S	13
4415, /V1	. .	13
4416, 4420, 4423 to 4425	S	13
4427	V	13
4438 to 4441A	S	13
4443	I	13
4448	S	13
4449A	I	13
4453	S	13
4454	X	13
4459 to 4465	. .	13
4600A	I	13
4603, 4604	I	13
4605-V2, 4612	B	13
4614, 4615	I	13
4616, 4617	B	13
4620	O	13
4621, 4622	I	13
MW4900, -4901	X	13
5269	. .	8
5513	B	6, 21
5514	B	2
5517	O	14, 17
GL5518	B	6
5526	. .	8
5530, H	B	14, 15
ML5531	B	14, 15
5541	B	14, 15
5544	M	1, 6, 8, 17
5545	M	1, 8
GL5549	B	6
5550, /GL415, /681	L	6, 10, 13, 14, 17, 21
5551A, /FG271, /652, PC	L	1, 6, 8, 13, 15, 17, 21
5552A, /FG235A, /651, PC	L	1, 6, 8, 13, 15, 17, 21
5553B, /P /FG258A, /655, PC	L	1, 6, 8, 10, 13, 14, 21
5554, /FG259B, /679	L	6, 21
5555, /FG238B, /653B	L	1, 6, 8, 10, 14, 15, 21
5555A	I	10, 21
5556, /PJ8	B	6, 13
5557, /FG17	M	1, 2, 6-8, 10, 13-15, 21
5558, /FG32	O	6, 10, 13-15, 21
5559, /FG57	M	1, 6, 8, 10, 13-15, 17, 21
5560, /FG95	M	1, 6, 10, 13-15, 17
5561, /FG104	O	6, 13, 21
5563A	M	6, 13
GL5564	L	6
5575/100, /616	A	6, 14, 15, 21
5576/200	A	14, 15, 21
5581	S	13, 14, 17
5582	S	13
5583	S	2, 13, 14, 17
5584	S	13
5586	J	1, 14
5592	B	13
GL5593	V	6
5594	M	17
5604	B	1, 9, 14, 15, 21
5606	B	3, 14, 15, 21
F5606A	B	9
5619	B	9, 14, 21
GL5623	H	6
GL5627, -5628	Q	6
GL5630	L	6
5632/C3J	M	1, 2, 6, 10, 14, 21
5636	D	6, 8, 13-15, 17, 21
5636A	D	15
5639	D	13, 15, 17
5639A	D	15
CK5639, /WA	D	14
5641, A	A	15
5642	O	6, 8, 13, 15
5643	M	8, 14, 15, 17
5644	A	8, 14, 15
5644A	A	15
5647, A	A	15
5651	N	1, 6, 14, 15, 17, 21
5651A	N	13
5651WA	N	13-15, 17
5652	S	13
5653	S	2, 13, 14, 17
5654, /6AK5W, /6096	D	1, 6, 8, 13-15, 17, 21
CK5656	C	14
RK5657	J	14
5658	B	1, 9, 14, 15, 21
5663	M	6, 17
5664/C1B/A	M	21
5665/C16J	M	6, 10, 14, 21
5666	B	1, 9, 14, 15
5667 (889RA)	B	1, 9, 14, 15, 21
5668, 5669	B	9, 14, 15, 21
5670	B	6, 13-15, 17, 21
5670WA	B	13-15
5671	B	13
5672	D	8, 14, 17
GL5674	Q	6
5675	B	13, 14
5676	B	14, 17
5678	D	8, 14, 17
5680	B	3, 9
5681	B	6, 14
5682	B	14, 21
ML5682K	. .	14
5684/C3J/A	M	1, 2, 10, 14
5684-Ne	M	10, 14
5684-A-Ne	M	10, 14
5685/C6JA	M	1, 2, 17, 21
5686	I	6, 13, 14, 17
5687	B	6, 13-15, 17, 21
5687WA	B	6, 14, 15, 17
5691	B	6, 13, 14, 17, 21
5692	B	6, 13-15, 17, 21
5693	D	6, 13-15, 17, 21
5696	M	8, 13, 15, 17, 21
5696A	M	6
CK5702	D	14
5702WA, WB	D	6, 14, 17
5703, WA, WB	B	6, 14, 17
CK5704, WA	A	14
5713	B	13
5718	B	6, 8, 13, 15, 17
5718A	B	15
5719	B	6, 13, 15, 17
5719A	B	15
5720/FG33	M	6, 14, 21
RK5721	K	14
5725, /6AS6W, /6187	D	6, 8, 13-15, 17, 21
5726, /6AL5W, /6097	A	1, 6, 8, 13-15, 17
5727, /2D21W	M	1, 6, 8, 13-15, 17, 21
5728	M	6
5734	B	13
5736	B	3, 6, 15, 17, 21
5744	B	14, 17
5744WA	B	6, 14, 17
5744WB	B	6, 14, 17
5749, /6BA6W	D	6, 13-15, 17
5750, /6BE6W	F	6, 13-15, 17
5751	B	6, 13-15, 17, 21
CK5751W1	B	13, 14
5751WA	B	6, 13-15
5755	B	14, 17
5762/7C24	B	13, 21
5762A	B	6, 13
5763	I	6, 8, 13-15, 17, 21
5767, 5768	Q	15
5770	B	13
5771, /356	B	1, 9, 13, 21
RK5777, -5778	K	14
GL5779	L	6
5783	N	14, 17
5783WA	N	8, 14, 17
CK5784	D	14
5784WA	D	14, 17
CK5784WB	D	14
CK5785	O	14
5786	B	13
5787	N	14, 17
CK5787A	B	14
5787WA	N	14, 17
GL5788	L	6
5796	M	2, 15, 17, 21
5799	A	19
5800/VX-41A	C	19
5802	B	8
5814A	B	6, 13-15, 17, 21
5814WA	B	13-15
CK5814WB	B	6, 14
5819	S	13
5820	V	6, 8, 21
5820A	V	6, 13, 15, 21
5820B	V	21
5822A	L	1, 6, 17, 21
5823	N	1, 6, 8, 13-15, 17, 21
5824	I	6, 14, 21
5825	O	7, 13
CK5829	A	14
5829WA	A	14, 17
5830/FG41	M	6, 21
5836	K	14, 15
5837	K	14, 15
5840	D	6, 8, 13-15, 17
5840A	D	15
5841	N	19
5842, /417A	B	1, 13, 14, 17
CK5842WA	. .	14
5844	B	6, 14, 17
5845	A	15, 16
WL5846	N	21
5847, /404A	D	1, 13, 14, 17
5851	D	17
5855	M	6, 8, 15
5857	G	11
WL5859/5860	O	21
5861	. .	8
5866, 5867	B	1, 18
5867A	B	1, 4
5868	B	1, 17, 18
5869, 5870	M	1
F5874	B	9
5875	D	14, 17
5876	B	13, 14
5876A	B	13
5877	M	21
5879	D	6, 14, 15, 21
5881	I	6, 14, 15, 17, 21
5886	D	6, 8, 14, 21
CK5889	D	14
WL5891	B	21
5893	B	13, 14
5894	C	1, 6, 8, 15, 17, 18, 21
5895	C	1
5896	A	6, 13, 15, 17
5896A	A	15
5899	D	6, 8, 13-15, 17, 18
5899A	D	15
5902	I	6, 8, 13-15, 17, 21
5902A	D	15
CK5902WA	D	14
5903	A	15
5904	B	15
5905 to 5908	D	15
5915	F	13, 14, 17

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Tube Type	*	Mfrs.
5916	D	15
5918A	B	9, 21
F5919	B	9
5920	B	1, 8
5923, 5924A	B	1
5931	A	15
5932, 5933	D	15
5933WA	I	15
5934	O	15, 21
WL5936	B	21
WL5939	X	21
5946	B	13
5948, A	M	9, 17
5949, A	M	9, 17
5950	N	19
5956 to 5959	M	9
5962	N	14, 19
5963, 5964	B	6, 13-15, 17, 21
5965	B	13-15,21
5965A	B	6, 14, 17
5966	X	15,17,21
CK5971	B	14
5973	O	6, 21
CK5975	B	14
5976	..	8, 14
5977, A	B	15
RK5981	K	14
WL5986A	B	21
5987	B	15
5991, 5992	T	10
5996	B	3, 9, 15
5998	B	17
5998A	B	6, 17
6000	D	17
6005, /6AQ5W, /6095	I	6,13-15, 17
6007, 6008	D	1
6009	B	3, 9, 15
6011, /710	M	6, 15, 17
6012	M	6,13-15, 17, 21
6014, /C1K	M	2, 6, 10, 14, 21
6019	C	6
6021	B	6, 8, 13-15, 17
6021A	B	15
CK6021WA	B	14
6027	J	15
6028, /408A	D	15, 17
CK6029	B	14
6032A	X	13
RK6037	K	14
GL6039	B	6
WL6040, -6041	N	21
RK6043	K	14
6046	D	6
CK6050	B	14
6057, 6058	..	8
6062,6064,6065	..	8
6072	B	6, 13, 14, 21
6072A	B	6, 14
6073, /OA2	N	13,14,17
6074, /OB2	N	13,14,17
6075, 6076	C	1, 8
6077, 6078	B	1
6079	C	1, 8
6080	B	6, 8, 13-15,17,21
6080WA	B	13-15,17
6080WB	B	14, 17
6082	B	13, 17
6082WA, WB	B	17
6083	D	1
6084/E80F	D	1, 8
6085	B	1, 8
6087/5Y3WGTB	A	6, 14
6088	D	14, 17
6096	D	8, 17
6097	A	8
6098/6AR6WA	I	17
6099	B	13
6100	B	6, 8
6101, /6J6WA	B	8, 13, 15
6110	A	14,15,17
6111	B	6,13-15, 17
6111A	B	15
CK6111WA	X	14
6112	B	6,13-15, 17, 21
6112A	B	15
CK6112WA	B	14
RK6115A,6116	K	14
6119	N	19
6130/3C45	M	9, 13
6134	X	6
6135	B	6, 14, 15
6136,/6AU6WA	D	6,13,15, 17, 21
6137	X	6
6143	N	19
6146	I	1,6,8,13, 14,17,21
6146A	I	6,13-15, 17, 21
6146B/8298A	I	13
6146W	I	13, 17
6152	X	14
6155, /4-125A	I	1, 8, 13
6156	I	1, 8, 13
6159	I	1, 8, 13-15,17,21
6159A/B	I	13, 15
6159W, /7357	I	13, 17
6161	B	6, 13
6166	C	13
6166A/7007	C	13, 21
6173	A	13
CK6174	A	14
6177	J	14, 21
RK6178	K	14
F6179	B	9
6181	I	13
6186, /6AG5WA	D	13-15
6188	B	17
6189/12AU7WA	B	6, 8, 13-15,17,21
6197	D	6, 13, 15, 21
6198A	V	6
6199	S	13
6201, /12AT7WA	B	1, 6, 13-15,17,21
6202	A	6, 14, 17
6203	X	6
6205	D	6, 8, 13-15, 17
6205A	D	15
6206	D	6, 13, 15, 17
6206A	D	15
6211	B	1, 8, 13, 15, 17
6211A	B	6
CK6213	N	14
6216	D	6, 14, 15
6217	S	13, 15
6218	X	1
6222	..	6
6227, /E80L	D	1, 8
6228, /506	L	6, 10, 21
RK6236	K	14
CK6245	D	14
CK6247, WA	B	14
WL6249B	J	21
GL6251	C	6
6252	C	1, 8, 18
RK6253, 6254	K	14
ML6256	B	14
6257	B	14, 15
6258	B	14
WL6260	X	21
6263A, 6264A	B	13
6265	D	6, 14
6267	D	1, 17
6268	M	1
6278	M	2
6279	M	1
CK6281	X	14
GL6283	Q	6
CK6286	B	14
6291, 6292	S	3
6293	I	13, 14, 17, 21
6293W	I	17
6299	B	6
6303/X80	O	3, 7, 17, 18
6306	P	19
WL6307, A	X	21
6308	A	15
RK6310, 6312	K	14, 21
WL6314, -6315	..	21
WL6316	K	21
6326	V	13
6327	I	17
6328	S	13
6333	B	1
6336A	B	6, 13, 14, 17
6339	A	1, 7, 17, 18
6342A	S	13
GL6346	L	6
6350	B	6,13-15, 17
6352	A	15
6354	O	1, 8
6356,6357,6358	..	3
6360	C	1, 6, 8, 14, 15, 17, 18
6360A	C	1
6362, -3, -4, -5	S	3
6366, 6367	Q	3, 9
6370, /E1T	X	1, 8
6373	D	8
6375	D	1, 8
WL6376, A	X	21
WL6377	X	21
6379	B	9, 21
6381	S	13
6384	I	17
6386	B	6, 13
6388/443A	M	17
RK6390	K	14
6394A	B	17
CK6397	D	6, 14
F6398	B	9
6399	Q	3, 9, 21
6400	Q	3, 9
F6401	B	9
6405/1640	S	13
F6411	S	9
CK6414	X	6, 14
6417	I	13, 21
6418	D	14, 17
CK6419	D	14
6420	B	3, 14, 21
6421	B	3, 14, 15, 21
ML6421F	B	3, 14, 15
6422	B	3, 14, 21
ML6423	B	3, 14
6423F	B	3, 14, 15
6424	B	14, 15
ML6425	B	14
6425F	B	14, 15
6426	B	14, 21
6427	B	6, 14
CK6436	A	14
CK6437, -6438	N	14
6442	Q	6, 14
6445 to 6447	B	1
6448	C	13
6462	..	11
6463	B	1, 6, 8, 14
6467	S	3
6468	K	15
6469	K	15
6470	K	15
6472	S	13
CK6476	P	14
6476A	P	15
6478	M	2
6481	Q	15
6483	M	15
6484/3C	O	2
6485	D	6, 14, 17
6487, 6488	D	8
6489	A	8
6499	R	13
6503	Q	15
6508	O	1
GL6512, -6513, -6514, -6515	L	6
6516	..	8
CK6519	D	14
6520	B	17
6521	J	13
6524	I	13
CK6526	D	14
6528	B	14, 17
CK6533	B	14
CK6533WA	X	14
CK6540	D	14
6542	N	14, 17
6544	C	3
PL6549	D	12
6550	I	6,13-15, 17, 21
6562/5794A	B	13
WL6567	B	21
PL6569	B	12
6570	S	13
6571	R	13
RK6573	K	14
6574	..	8
ML6576	B	14
ML6577	T	14
PL6580	B	12
6587	M	9
6590	M	17
6611	D	8, 14
CK6612	D	14
6617, 6618	B	1
6621	..	6
6623	B	3, 21
6626/OA2WA	N	13, 14
CK6627/OB2WA	N	14
6655A	S	3, 13
F6658	X	9
CK6659	A	14
6660 to 6662	D	6,13-15, 17, 21
6663/6AL5	B	6,13-15, 17, 21
6664, /6AB4	B	6, 13
6669, /6AQ5A	I	6,13-15, 17, 21
6676, /6CB6A	D	6, 13, 15, 17
6677, /6CL6, /6AL6	D	6,13-15, 17, 21
6678, /6U8A	G	6,13-15, 17, 21
6679, 6680	B	6,13-15, 17, 21
6681/12AX7	B	6,14,15, 17, 21
6681/12AX7A	B	13
6883	..	6, 13
6686, 6687	D	1, 8
6688	D	1, 8, 14
6688A	D	1, 6, 14
6689	D	1, 8
F6691, -6692	B	9
6693	A	1, 8
6694A	S	13
6696, 6697	B	9, 14, 21
ML6696A, -6697A	..	4, 14
6700	..	8
6756	B	1
6759	B	1
CK6763	A	14
6771	B	6, 14
PL6775	C	12
6777	M	9
6778, 6779	X	1, 8
WL6780, -6781	..	21
6782	..	3
6786	M	1
6788	D	15
CK6792	C	14
F6800, -6801	B	9
6802	P	14, 15
F6803, -6804	B	9
6806	I	13
6807	M	6, 8, 15, 17, 21
6808	M	6, 21
GL6809	M	6
6810A/B	S	3, 13
6814	B	6, 13, 14
6816	I	13
F6825, -6826	X	9
6829	X	6, 14
6832	B	14, 15
6842	D	11, 19
6844	T	8
6844A	T	10
RK6845	K	14
6848	..	6
WL6849	V	21
6850	I	13
6855/716	M	2
6856/740	M	2, 6, 21
6857	M	2, 21
6858, 6859	M	2, 6, 21
6860/C6J/F	M	21
6861	X	13
6865A	J	13
6866	R	3, 13
F6868	X	9
CK6872	D	14
6877	B	17
6878	..	6
6879	P	15
6882	..	3
6883	I	1, 2, 6, 8,13-15, 17, 21
6883A	I	15
6884	I	13
6887	A	13
6893	I	13,17,21
6894	O	6,10,13, 14, 21
6895	O	10, 13, 14, 21
6897	B	6, 13, 15
6901	M	7, 17
6903	S	13
6907	C	1, 6, 17
ML6908	A	14
6909	P	14, 15
6910	P	14, 15
6911	S	3
6914	X	9, 13
6914A	X	13
WL6915	..	21
6919	A	6
6920	B	9, 21
F6921	B	9
6922	B	1, 8, 13-15, 21
6922M	B	1
6923	A	1, 8
F6925, -6926, -6926J	B	3, 9
6929	X	9, 13
WL6930/635P	O	21
6935	S	3
WL6937A,6938	X	21
6939	D	1, 8, 13-15
WL6941, A	X	21
GL6942	..	6
6943 to 6945	D	15
6946 to 6948	B	15
6949	B	13
6950/2039	B	13
6952	I	13
6953	S	13
6954	D	21
6960, 6961	B	1
6968	D	17
WL6971A	X	21
6972	J	8
6975	..	8
6977	B	1, 8, 15, 17
6979	C	1
6983	O	2
6989/C6J/KL	M	10, 14
6989-Ne	M	10, 14
F6996	X	9
WL6998	X	21
7006	J	15
7007, /6166A	V	6, 14, 15, 21
7008	J	13, 21
7009	T	10
7012	B	3, 9
WL-7014/604, -7015/604L, -7016/606, -7017/606L	O	21
7018 to 7020	O	21
7021	..	2
7022/740L	O	2, 21
7023/760L	O	21
7028	..	8
7029	S	13
7030	A	3, 9
7033	R	3
7034/4X150A	C	1, 4, 6, 13, 15
7034W	C	1
7035/4X150D	C	1, 4, 13, 15
7035W	C	1
7036	F	6
7038	V	6, 13, 21
7043	S	2, 13, 14, 17
7044	B	6, 13-15
7046	S	13
7054	D	6, 13, 15
7055	A	13, 15
7056	D	6, 13, 15
7057, 7058	B	6, 13, 15
7059	G	6, 13, 15
7060	G	13, 15
7061	I	6, 13, 15
7062	B	1, 8
7064, 5	S	3
F7066	X	9
7077	B	6
CK7079, -7083	B	14
WL7087, A	X	21
7090, 7091	J	1, 8
7092	B	1
7093	..	8
7094	I	10, 13
7099	N	17
7100	A	3, 9
7102	S	13
7105	B	17
WL7110	J	21
7111	J	13, 21
7117	S	13
7119	B	1, 8
ML7120 to ML7125	..	14
7131/XD2	A	3, 9
7132/XD2	A	3
7133/XD3	A	3
7134/XD3	A	3
7135/XD6	A	3
7136	O	1
7137	B	15
GL7151	L	6
NL7153	T	10
7154/CEM-2000	..	3
7155	P	15
RK7158/404	K	14
7159	A	7, 18
7163	S	13, 21

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Tube Type	*	Mfrs.
7171	L	6, 10, 21
F7172	R	9
F7173	R	9
F7174	R	9
7178	A	9
7183	R	3, 13
F7185	B	9
WL7186	X	21
WL7187	X	21
WL7188	X	21
7190 to 7192	M	17
7198	V	13, 21
7200	S	13
7203/4CX250B	C	1, 4, 13, 15, 21
7203W	C	1
7204/4CX250F	C	1, 4, 13, 15
7204W	C	1
F7206, -7207	B	9
ML7209, 7210	B	14
ML7211	B	4, 14
7213, 7214	I	13
7215	B	21
F7222	R	9
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7236	B	17
7237	B	1
7239	D	6
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7423	R	3
7427	S	6
WL7429	X	21
7448	R	3
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7459	B	1
7462	B	6
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7486	B	6
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7605	M	9, 17
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7607	D	17
7609	C	1
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7638, 7639	..	8
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7644	B	6
7645	C	1
7649	I	13
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7651	I	13
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7738	B	15
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7746	S	13
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7753	B	1
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7764, 7767	S	13
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7803	B	15
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7967	..	13
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CK7979	..	14
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7984	D	6
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8049	S	17
8051, 8053	..	13
8054, 8055	S	13
8056	B	13
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8058	B	13
8062	S	3
8063	..	8
8064	D	15
8068	D	6
8069	N	19
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8072	I	13
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8078	B	1
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8091	N	19
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8103	B	15
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WL8105	X	21
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8118	C	1
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8210	D	15
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8228	N	1
8233	D	1, 8
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8241/ 3W5000F1	B	4
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8244/ 4CW2000A	B	4
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8269	B	1
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8275/KU-93	A	9, 17
8276/KU-94	A	9
8281/ 4CX15000A	C	4
8283/ 3CX1000A7	B	4
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8297/4X150S	C	4
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8301/KU-275	M	9
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8322/4CX350F	C	4
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8348	C	1
8349/ 4CX35,000C	C	4
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8353	P	15
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8408	C	1
NL8421/5092, -8423/6091	T	10
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8463	D	1
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Amperex® Industrial Tubes

• POWER TUBES **• MICROWAVE TUBES** **• SPECIAL PURPOSE TUBES**

Information on types available government source inspected to applicable MIL specs available on request.

Amperex Type	Net Each
OA2	$ 1.60
OB2	1.75
OE3	7.25
OG3	2.30
2C39A	41.25
2D21	1.50
2DF4	11.65
2J42	146.25
2J42A	187.50
2J51	675.00
2J51A	1035.00
2J51S	375.00
2J55	247.50
2K25/KS9-20A	39.75
2M53	93.75
2M66	86.25
2M88	101.25
2-01C	22.00
3B28	9.55
3CV1500A7	225.00
3CV30000A1	710.00
3CV30000A3	590.00
3CV30000H3	620.00
3CW5000A1/8240	290.00
3CW5000A3/8242	250.00
3CW5000F1/8241	270.00
3CW5000F3/8243	260.00
3CW5000H3	265.00
3CW10000H3	445.00
3CW20000A1	615.00
3CW20000A3	515.00
3CW20000A7	820.00
3CW20000H3	540.00
3CW25000A3	565.00
3CW30000H3	595.00
3CW40000H3	795.00
3CX1000A7/8283	175.00
3CX1500A7/8877	200.00
3CX2500A3/8161	200.00
3CX2500F3/8251	205.00
3CX2500H3	240.00
3CX3000A1/8238	238.00
3CX3000A7	280.00
3CX3000F1/8239	245.00
3CX3000F7/8162	294.00
3CX5000A3	356.00
3CX5000H3	440.00
3CX10000A1/8158	545.00
3CX10000A3/8159	545.00
3CX10000A7/8160	580.00
3CX10000H3	545.00
3CX15000A3	560.00
3CX15000A7	610.00
3CX15000H3	560.00
3CX20000A3	580.00
3CX20000H3	580.00
4-125A/4D21	45.00
4-250A/5D22	50.00
4-500A	65.00
4-1000A/8166	135.00
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4CV1500B	240.00
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4CV20000A	590.00
4CV35000A	910.00
4CV100000C/8351	2520.00
4CV250000A	6350.00
4CV250000V	6450.00
4CW800B, F	331.00
4CW10000A/8661	560.00
4CW2000A/8244	240.00
4CW25000A	825.00
4CW100000D	2520.00
4CW100000E	2880.00
4CW250000A	6350.00
4CW250000V	6450.00
4CX1000K/8352	230.00
4CX1500A	215.00
4CX1500B/8660	205.00
4CX3000A/8169	420.00
4CX5000A/8170	495.00
4CX5000J/8909	545.00
4CX5000R/8170W	705.00
4CX10000D/8171	575.00
4CX10000J	590.00
4CX15000A/8281	$ 695.00
4CX15000J/8910	765.00
4CX35000C/8349	1905.00
4E27A/5-125B	50.00
4J52(A)	525.00
4PR60C	116.00
4PR65A/8187	50.00
4PR125A/8247	57.00
4PR250C/8248	230.00
4PR400A/8188	64.00
4PR1000A/8189	215.00
4PR1000B	225.00
4W20000A/8173	3400.00
4X500A	160.00
5-500A	71.00
5C22AX	150.00
5CX1500A	195.00
5CX3000A	437.00
5J26	1000.00
5J26JAN	1125.00
5R4GYA	2.25
5R4GYB	2.60
6AK5WB	6.15
6AS7GA	5.40
6B32	47.50
6C21	121.00
6C4WA	3.15
6DJ8/ECC88	2.45
6Q4/EC80	6.20
6R4/ECC81	15.25
12AX7WA	6.20
12AY7	2.45
25T	43.00
35T	47.00
75C1	5.65
75TH, 75TL	43.00
85A1/OE3	7.25
85A2/OG3	2.30
90C1	2.25
100TH, 100TL	32.00
102A	192.00
150A1	5.40
150B2/6354	2.55
152TH	93.00
152TL	125.00
250R	42.00
254W	46.00
264/8576	420.00
284	217.00
290	470.00
290A	480.00
304TH, 304TL	83.00
450TH, 450TL	103.00
481B	12.25
501RA, 504R	375.00
572B/T-160L	14.50
575A	21.50
592/3-200A3	63.00
632B	35.50
672A	43.00
673	23.00
676, 677	66.75
678	52.00
723AB	54.00
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807	6.05
810	33.60
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812A	7.50
813	23.35
833A	72.00
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5727/2D21W	3.30
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6669/6AQ5A	1.95
6676/6CB6A	1.90
6677/6CL6	2.70
6678/6U8A	2.25
6679/12AT7	2.05
6680/12AU7A	1.75
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7008/YJ1010	2250.00
7034/4X150A	23.90
7034/4X150A JAN	24.25
7035/4X150D	29.00
7035/4X150D JAN	31.50
7036	1.80
7044	2.95
7062	4.40
7090	325.00
7092	135.00
7093	1250.00
7119	6.35
7120	597.00
7121	645.00
7136	84.00
7167	1.85
7203/4CX250B	35.60
7203/4CX250B JAN	37.00
7203/4CX250BNL	36.75
7204/4CX250F	39.10
7204/4CX250F JAN	39.50
7233	2.80
7237A	267.00
7239	8.65
7289/3CX100A5	27.00
7308	6.40
7308 JAN	6.85
7320/E84L	8.50
7370	12.90
7377	33.75
7378	57.75
7459	310.00
7480A	$1640.00
7527A	54.75
7534	32.00
7537	1180.00
7560	4455.00
7560V	4550.00
7580	48.50
7580W/4CX250R	44.50
7580W/4CX250R JAN	50.25
7609	31.50
7609 JAN	32.75
7643	10.50
7645	13.75
7693	5.30
7694	4.35
7698	45.00
7699	19.90
7701	2.45
7711/Z70U	1.80
7714/Z805U	5.25
7716	2.00
7717/6CY5	1.65
7721/D3A	38.00
7722/E280F	17.25
7724/14GT8	1.60
7737/E186F	7.26
7737 JAN	9.75
7753	270.00
7788	14.15
7788 JAN	26.00
7804	665.00
7805	630.00
7806	1190.00
7807	800.00
7815/3CPN10A5	25.50
7843, 7844	**
7854	40.00
7900	370.00
7983	15.90
7986/5866A	38.25
8008	12.40
8008AX	36.00
8020/8020W	23.50
8042	14.70
8068	4.30
8078	131.00
8094/199	385.00
8102	1.75
8106	1.90
8108/EC157	262.00
8116 JAN	67.25
8116A	65.00
8117A	58.00
8118	56.00
8119/TBL2/400	385.00
8120/TBLZ/500	385.00
8136	1.35
8156	4.30
8163/3-400Z	32.50
8165/4-65A	32.50
8168/4CX1000A	200.00
8179	237.00
8223/E288CC	9.60
8228	2.90
8233/E55L	17.90
8233 JAN	29.90
8255/E88C	8.30
8268	274.00
8269	383.00
8270	142.50
8295A	195.00
8300	38.00
8321/4CX350A	51.75
8322/4CX350F	53.75
8322 JAN	62.50
8348	12.20
8403	71.50
8408	16.75
8416	9.15
8436/EC158	322.50
8438/4-400A	53.50
8438A/4-400AX	58.75
8457	6.38
8458	12.25
8463	7.10
8482	116.00
8505A	29.50
8509	40.75
8556	9.00
8560AS	51.25
8577	13.05
8579	33.20
8580	22.75
8591	706.00
8592A	277.00
8593	329.00
8594	910.00
8595	20.25
8603	60.00
8608	24.75
8609	24.75

Price on request. **Prices subject to change or withdrawal without notice.

Amperex® Industrial Tubes

INDUSTRIAL TUBES (CONTINUED)

Amperex Type	Net Each	Amperex Type	Net Each	Amperex Type	Net Each	Amperex Type	Net Each	Amperex Type	Net Each
8621/ 4CX250FG	$ 40.50	8830A	$ 315.00	DX350	$ 75.00	PL150	$ 135.00	YJ1200	$ 575.00
8621 JAN	58.10	8867	149.00	DX373/3219	375.00	PL6574	22.50	YJ1250	660.00
8624	43.00	8888	935.00	DX393	53.50	PL6755	60.00	YJ1280/OM-52	250.00
8639	51.50	8913	1665.00	DX401/YJ1420	101.25	QF451/BS-910	97.00	YJ1300	120.00
8639 JAN	**	8915	1490.00	DX402	75.00	SD513	1050.00	YJ1390	142.50
8643	44.85	8918	7850.00	DX403	85.00	SD612	278.00	YJ1420/DX401	101.25
8647	110.00	8935	1160.00	DX427	1925.00	SD613A	100.00	YK1001	7950.00
8666	662.00	8936	1235.00	DX450	3500.00	SD621/ 4CX250H	84.00	YK1010/DX151	3750.00
8667	589.00	8937	1635.00	DX452	86.25	SD650	120.00	YK1090, -1091	825.00
8668	615.00	13201AE	6.00	DX453	93.75	SD652	899.00	Z504S	13.75
8669A	243.00	18045	10.75	E86C	7.80	TD-03-10D/E	45.00	Z505S	14.25
8670A	327.00	55032-55092	975.00	E92CC	4.80	WF409/ MD2901	112.50	Z803U/6779	3.45
8679	870.00	55309, 55310	1360.00	EA53	28.10	YD1240	406.00	Z805U/7714	5.25
8680	3600.00	55335/DX184	1875.00	EA76	5.60	YD1300	214.00	Z900T/5823	3.45
8683	26.25	55340	1180.00	ECC2000	6.10	YD1330	534.00	ZA1001	.50
8731	389.00	56001	24.20	EFP60	15.70	YD1331	502.00	ZA1002	.75
8732	315.00	A2426	21.75	EL360	24.00	YD1332	534.00	ZA1003	1.25
8733	363.00	AX105/FG105	126.50	HF200	56.00	YD1333	502.00	ZA1004	.75
8734	690.00	AX126B	160.00	HF300	48.00	YD1342/OZ168	6900.00	ZA1005	1.25
8735	1125.00	AX260/PL260	420.00	JP9-2.5D/F	112.50	YJ1010/7008	1780.00	ZB3200	835.00
8736	1490.00	C1148	112.50	JP9-2.5E	112.50	YJ1020	1470.00	ZC1031	1.50
8744	1200.00	C1149/ 4PR-60-B	131.25	JP9-2.5H	135.00	YJ1021	1630.00	ZC1050	1.87
8752	2725.00	C1166	125.75	JP9-15/D	187.00	YJ1060/6027H	225.00	ZC1060	3.75
8753	27.50	DX206	187.50	JP9-7L	187.50	YJ1071, YJ1110	187.50	ZX1051	71.00
8798	595.00	DX206F	225.00	JP9-18	187.00	YJ1120, YJ1121	187.50	ZX1052	107.00
8798 JAN	637.50	DX260	187.50	KS9-20B	44.25	YJ1160	500.00	ZX1053	265.00
8801	1195.00	DX267	1200.00	KS9-20D/F	41.25	YJ1162	530.00	ZX1060	**
8802/3-500Z	38.00	DX276	595.00	KS9-40B	125.00	YJ1180	5000.00	ZX1061	125.00
8812	655.00	DX286	1250.00	KS9-40D	120.00	YJ1190	900.00	ZX1062	169.00
8813	770.00	DX342, DX343	3500.00	OZ181	1490.00	YJ1191	890.00	ZX1063	265.00
8814	535.00	DX345	187.00	PE05/25	52.50				
				PE06/40E, N, P	25.00				

NUMERICAL INDICATORS

Amperex Type	Description	Net Each, Lots 1-99	Net Each, Lots 100-499*
8453/ ZM1050	Cold cathode decade numerical indicator	$14.50	.....
ZM1000	Numerical indicator	5.00	$4.00
ZM1001	Plus-minus character indicator	7.35	6.35
ZM1005	Long life 10 digit indicator (0–9)	5.50	4.35
ZM1020	Long life 10 digit indicator (0–9)	9.50	8.50
ZM1021	Special character indicator A, V, Ω, %,	9.50	8.50
ZM1023	⁀, +, −	9.50	8.50
ZM1022	Long life 10 digit indicator (0–9)	9.50	8.50

Amperex Type	Description	Net Each, Lots 1-99	Net Each, Lots 100-499*
ZM1024	Special character indicator C/S, KC/S,	$10.45	$ 9.35
ZM1025	MC/S, μS, MS, NS, S	10.45	9.35
ZM1030	Bi-Quinary numerical indicator (red)	9.95	8.00
ZM1031	Bi-Quinary numerical indicator (red)	9.95	8.00
ZM1032	Bi-Quinary numerical indicator (clear)	9.95	8.00
ZM1033	Bi-Quinary numerical indicator (clear)	9.95	8.00
ZM1200	Long life indicator for in-line numerical display applications (up to 14)	51.80	45.00
55702	Socket for ZM1000 and ZM1001	.50	.50

*Larger Quantity Prices Available on Request.

INSTRUMENT CATHODE RAY TUBES

Types listed have P31 phosphor. P1, P2, P7 and P11 phosphors are also available; prices on request.

Amperex Type	Net Each, Lots of 1-5	6-24	25-99	Amperex Type	Net Each, Lots of 1-5	6-24	25-99	Amperex Type	Net Each, Lots of 1-5	6-24	25-99
DH3-91	$ 29.00	$ 26.00	$ 24.00	D13-16GH	$337.00	$306.00	$280.00	D14-120GH	$170.00	$155.00	$125.00
DG7-31, -32	23.00	21.00	19.00	D13-16GH/01	372.00	335.00	308.00	D14-121GH	180.00	165.00	131.50
DG7-78	61.00	55.00	51.00	D13-23GH	380.00	342.00	315.00	D14-160GH/09	205.00	190.00	160.00
DH7-11	57.00	51.50	47.50	D13-26GH	203.00	183.00	169.00	E10-12GH	100.00	89.00	82.00
D7-190GH	34.00	30.00	28.00	D13-26GH/01	245.00	222.00	204.00	E10-130GH	115.00	102.00	93.50
D10-12GH	98.00	88.00	83.00	D13-27GH	65.00	58.00	53.50	Q13-110	345.00	310.00	286.00
D10-160GH	35.00	31.50	29.00	D13-450GH/01	264.00	239.00	220.00	M13-38	620.00	560.00	515.00
D10-170GH	84.00	76.00	70.00	D13-480GH	43.00	39.50	35.50	M17-140W	90.00	81.00	75.00
D10-200GH/07	265.00	245.00	221.00	D13-500GH/01	900.00	850.00	825.00	M17-141W	120.00	108.00	100.00

VIDICON CAMERA TUBES

Amperex Type	Net Each	Amperex Type	Net Each	Amperex Type	Net Each	Amperex Type	Net Each
7038	$170.00	7735B	$170.00	8134	$200.00	XQ1240	Prices on
7735A	150.00	8507A	190.00	8572	215.00	XQ1241	Request

PHOTOMULTIPLIERS

Photomultiplier base assemblies; high current fast transient time photomultipliers; universal and windowless photomultipliers in a variety of dynode structures and housing designs also available. Data and pricing on request.

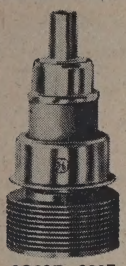
Amperex Type	Size, Inches	Net 1-5	Amperex Type	Size, Inches	Net 1-5	Amperex Type	Size, Inches	Net 1-5	Amperex Type	Size, Inches	Net 1-5
XP1110	¾	$120.00	150UVP	1½	$325.00	56TVP	2	$ 735.00	XP1030	3	$ 185.00
XP1113		98.00	XP1010		145.00	56UVP		650.00	XP1031		230.00
XP1114		98.50	XP1011		145.00	XP1000		130.00	XP1032		1350.00
XP1115A		175.00	XP1015, C		190.00	XP1001		160.00	XQ1034		400.00
XP1115B		175.00	XP1016		325.00	XP1002		325.00	54AVP	5	225.00
XP1115C		175.00	53DVP	2	170.00	XP1003		685.00	54DVP		400.00
XP1116		120.00	56AVP		260.00	XP1004		570.00	54UVP		1350.00
XP1117		350.00	56AVP-03		395.00	XP1005		275.00	58AVP		630.00
XP1118		285.00	56CVP		400.00	XP1006		260.00	58DVP		850.00
XP1119		270.00	56DUVP		735.00	XP1020		570.00	58UVP		2500.00
XP1180	1	160.00	56DUVP-03		815.00	XP1021		575.00	XP1040		615.00
150AVP	1½	85.00	56DVP		395.00	XP1023		960.00	57AVP	9	800.00
150CVP		135.00	56DVP-03		495.00	XP1210		3600.00	60AVP		1550.00
150DVP		190.00	56TUVP		915.00	XP1230		375.00	60DVP		2200.00

PLUMBICON™ CAMERA TUBES—CCTV AND INDUSTRIAL TYPES

Amperex Type	Description	Net Each	Amperex Type	Description	Net Each
CCTV101	30MM, integral mesh, industrial grade	$ 900.00	XQ1071L	1″ separate mesh, luminance ind. grade	$780.00
XQ1021	30MM, separate mesh, industrial grade	780.00	XQ1071R	1″ separate mesh, red, industrial grade	810.00
XQ1024	30MM, separate mesh, extended red response, industrial grade	1040.00	XQ1071B	1″ separate mesh, blue, industrial grade	810.00
			XQ1071G	1″ separate mesh, green, industrial grade	810.00

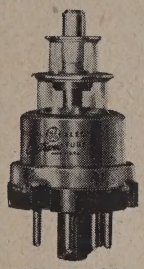
GENERAL ELECTRIC Industrial Tubes

POWER • INDUSTRIAL RECEIVING • BROADCAST • CAMERA


2C39B, 6897

6005/6AQ5W

7391


2C40A, 2C43

GL-5551A

GENERAL ELECTRIC TYPE	NET EACH
OA2	$ 1.75
OA3	2.05
OA4G	3.20
OB2	1.85
OB3	2.70
OC3, OD3	1.95
1P40	6.75
2B22	69.10
2C39A	35.20
2C39B	83.35
2C39BA	36.25
2C39WA	35.20
2C40A	70.80
2C42, 2C43	60.05
2C46	65.40
2D21	1.90
2E26	5.35
2J42	134.65
3B24W	12.10
3B28	12.35
3C23	13.20
3CX1000A7/ 8283	178.55
3CX2500A3/ 8161	200.00
3CX2500F3/ 8251	205.00
3CX3000A1	238.00
3CX3000F1	245.00
C3J/L	15.80
4-65A	34.80
4-250A	53.50
4-400A	58.25
4-400C	60.30
4-1000A	150.60
4CX250B	35.75
4CX300A/ 8167	65.40
4CX350A	51.90
4CX1000A/ 8168	200.00
4CX1500B	219.35
4CX3000A/ 8169	420.00
4CX5000A/ 8170	495.00
4CX15000A	695.00
4D21/4-125A	50.40
4E27/5-125B	$ 52.00
4PR60C	123.00
4X150A	25.00
4X500A	135.00
5R4GA	2.75
5R4GYB	2.95
6AK5WB*	6.45
6AN5	4.45
6AS6	4.45
6AS7GA	6.15
6C4WA*	3.30
6D4	3.65
6DJ8/ ECC88	2.70
6L6WGB	5.80
12AX7WA*	6.50
12AY7	2.65
FG-81A	50.85
83	4.95
FG-97	103.50
FG-98A	111.80
FG-105	60.10
FG-172	220.00
250R	45.40
FG-280	177.00
304TL	83.00
393A	15.40
407A	6.00
408A	5.60
GL-414	425.00
575A	25.25
610	14.00
615	11.50
672A	51.65
673	24.35
678	53.60
710/6011	14.45
710L/7518	16.55
807	6.35
810	42.85
811A	10.00
812A	8.50
813	28.50
816	5.85
829B	24.05
832A	20.30
833A	83.60
GL-858B	$ 235.00
862A	1775.00
866A	4.90
GL-869B	140.00
GL-870A	2920.00
872A/872	13.10
880	660.00
889A	292.35
892	355.35
927	10.30
930	7.15
931A	16.95
2050A/ 2050	2.85
GL-5513	880.00
5544	34.55
GL-5550	58.00
GL-5551A	75.00
GL-5551A/PC	77.00
GL-5552A	112.00
GL-5552A/PC	115.00
GL-5553B	285.00
GL-5553B/PC	290.00
GL-5554	245.00
GL-5555	370.00
GL-5556	81.00
5557	10.45
5558	19.25
5559	25.30
5560	37.15
5561	74.45
5563A	88.40
GL-5564	1110.00
5575/100/616	252.80
5576/200	262.15
5606	320.80
5606A	362.00
GL-5630	2530.00
5632/C3J	15.45
5642	3.75
5651	2.30
5654/6AK5W*	2.70
5663	3.05
5665/C16J	55.65
5670*	3.60
GL-5674	225.00
5675	11.45
5684/C3J/A	15.40
5686*	5.00
5687*	5.40
5687WA*	5.95
5687WB*	5.95
5691	11.00
5692	9.85
5693	12.20
5696A	2.45
5718	4.05
5720	45.85
5725/6AS6W*	4.25
5726/6AL5W*	2.75
5727*	3.75
5736	211.15
5749/6BA6W*	3.80
5750/6BE6W*	4.90
5751*	3.65
5763	3.00
GL-5788	800.00
5814A*	3.40
GL-5822A	132.00
GL-5822A/PC	135.00
5823	2.15
5824	5.50
5842/417A	$ 12.00
5844	2.90
5847/404A	10.70
5855	147.05
5881	3.10
5886	7.65
5894	30.20
5896	4.75
5902	4.80
5924A	367.80
5963	2.30
5964	2.40
5965A	2.80
5998A	15.40
6005/ 6AQ5W*	4.60
6012	10.30
GL-6014/C1K	14.20
6046	2.05
6072A*	4.80
6076	364.35
6080	6.75
6087*	7.10
6111	3.70
6134*	7.00
6135*	2.95
6136*	4.00
6137*	3.55
6146A	5.65
6146B/ 8298A	6.30
6161	170.00
6189/ 12AU7WA*	4.00
6197	3.55
6198A	170.00
6201*	4.05
6202*	2.95
6203*	5.10
6206	7.25
6211A	3.15
6216	4.40
GL-6228	3696.25
GL-6251	3550.00
6265*	4.85
6268	66.15
GL-6283	595.00
6299	154.40
6336A	33.05
6350	2.95
6360	5.45
6360A	6.90
6386*	10.35
6397	8.30
6442	54.05
6442AL	141.35
6463	2.15
6485	2.35
GL-6512	475.00
GL-6513	620.00
GL-6514	805.00
GL-6515	1410.00
6550A	6.95
6661/6BH6	2.70
6662/6BU6	2.65
6663/6AL5	1.95
6664/6AB4	$2.50
6669/6AQ5A	2.15
6676/6CB6A	2.15
6677/6CL6	3.25
6678/6U8A	2.55
6679/12AT7	2.30

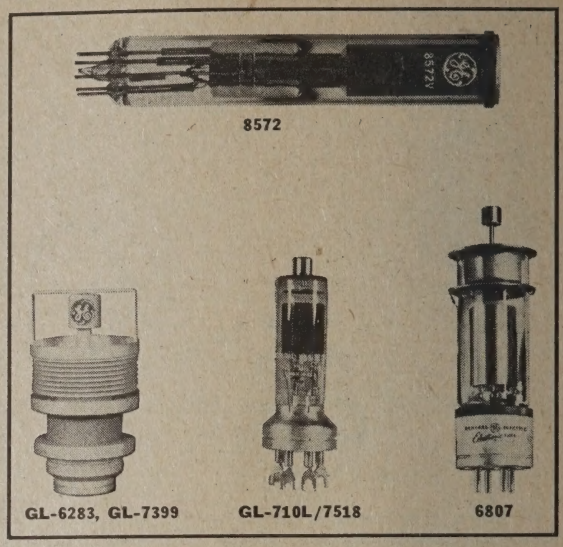
*Five Star type. /PC—indicates plastic coated.

GENERAL ELECTRIC Industrial Tubes

POWER • INDUSTRIAL RECEIVING • BROADCAST • CAMERA

GENERAL ELECTRIC TYPE	NET EACH
6680/12AU7A	$ 2.00
6681/12AX7A	1.85
6688*	9.55
6771	97.15
6807	47.00
6808	48.15
6809	53.50
6829*	6.60
6858/760	29.50
6859/760P	32.90
6883A	5.75
6883B/8032A/8552	6.70
6884	53.50
6897	83.35
6907	29.20
6922/E88CC	5.35
6939	16.40
GL-6942	1230.00
7007/6166A	1103.15
7036	1.95
7038	182.00
7044	3.40
7054	2.20
7056	1.35
7058	2.60
7059	2.20
7060	2.45
7061	2.80
7077	62.00
GL-7151	880.00
7167	2.10
GL-7171	68.00
7226	331.00
7233	3.05
7239	9.40
7262A	202.00
7263A	379.00
7266	62.85
7289/3CX100A5	36.25
7296	94.10
7325	182.00
7370	14.10
7391	105.60
GL-7399	570.00
7410	11.55
7462	66.85
7486	62.00
7551	4.60
7588	180.10
7625	68.30
7644	207.70
GL-7669	75.00
GL-7669/PC	77.00
GL-7670	86.00
GL-7671	112.00
GL-7671/PC	115.00
GL-7673	285.00
GL-7673/PC	290.00
GL-7681	180.00
GL-7681/PC	184.00
7697	170.00
7701	2.65
GL-7703	200.00
7716	2.20
7717	1.80
7720	78.25
7724	1.60
7725	21.20
7726	26.70
7735A	117.00
7735B	182.00
7735BX	374.00
GL-7736	1160.00
7768	157.20
7784	194.90
7815/3CPN10A5	27.65
7815AL	$ 41.25
7815XAL	41.25
7815/3CPN10A5	41.25
7815R	41.25
7841	67.40
Z-7856	450.00
7861*	4.35
Z-7869	1725.00
Z-7870	1775.00
Z-7870B	875.00
Z-7870X	1050.00
7905	4.65
7910	137.45
7911	188.55
Z-7911	79.00
Z-7912	587.00
7913	219.85
Z-7919	130.00
Z-7927A	812.00
Z-7927 IND.	402.00
Z-7929	389.00
Z-7933	578.00
Z-7946	1820.00
Z-7963	247.00
GL-7964	74.00
Z-7975A	812.00
Z-7975 IND.	533.00
Z-7978	1900.00
7984	6.40
Z-7996A	812.00
Z-7996 IND.	533.00
GL-7998	190.00
Z-7998	235.00
Z-7999	1625.00
8005	24.70
8008	14.15
8020	21.40
8042	22.55
8068	4.70
8077/7054	2.00
8082	82.95
8083	82.95
8102	1.90
8106	2.10
8134	210.00
8136	1.45
8156	4.65
GL-8205	880.00
8233	25.00
8295A	204.75
GL-8360	86.00
GL-8465	690.00
GL-8466	740.00
8484	182.00
8484H	194.00
GL-8500	570.00
8507	79.00
8507A	199.00
8511	331.00
8541	89.00
8541A	203.00
8541X	388.00
8572	227.00
8573	289.00
8573A	226.00
8573X	407.00
8604	326.00
8643	59.10
8683	24.65
8745	41.45
8751	238.80
GL-8866	600.00
8906	55.20
8906AL	55.20
8906XAL	55.20
8907	55.20
8907AL	55.20
8908	7.55
8950	6.30

*Five-Star type. /PC—Indicates plastic coated.



8572

GL-6283, GL-7399 GL-710L/7518 6807

GENERAL ELECTRIC TYPE	NET EACH	GENERAL ELECTRIC TYPE	NET EACH
GE-13971	$125.25	GE-18651	$ 144.15
GE-14501	65.00	GL-37207	360.00
GE-14811	130.25	GL-37248	260.00
GE-15371	63.65	GL-51038	545.00
GE-16841	89.70	GL-51038R	600.00
GE-17241	42.40	GL-51064	1230.00
GE-17701	219.15		

McLEOD GAUGES

GENERAL ELECTRIC TYPE	NET EACH	GENERAL ELECTRIC TYPE	NET EACH
N-24900 AAG1	$400.00	N-24900 AEG1	$125.00
N-24900 AAG2	400.00	N-24900 AEG2	125.00

IGNITOR LEADS

GENERAL ELECTRIC TYPE	NET EACH
N-22007LC	$3.00

REED SWITCHES

GENERAL ELECTRIC		NET EACH, LOTS OF		
NEW NUMBER	OLD NUMBER	1-99	100-499	500-999★
DR302-20/40	.....	$0.80	$0.64	$0.48
DR341-10/60	.....	1.04	.83	.62
DR351-10/50	.....	1.04	.83	.62
DR401-15/55	.....	.82	.61	.41
DR401-18/38	DR145	.90	.72	.54
DR401-24/46	DR123	.82	.61	.41
DR401-32/54	DR121	.82	.61	.41
DR441-10/60	.....	1.12	.90	.67
DR442-20/50	.....	1.60	1.29	.65
DR540-30/50	.....	1.00	.80	.60
DR541-30/50	.....	1.25	1.00	.75
DR570-70/110	DR158	3.68	2.76	1.84
DR600-75/105	DR101	.52	.41	.37
DR600-30/50	DR104	.52	.41	.37
DR601-30/130	.....	1.08	.86	.75
DR601-75/105	DR113	1.08	.86	.75
DR602-40/100	.....	1.17	.93	.81
DR603-70/150	.....	3.58	2.86	2.50
DR680-80/200	DRV120	4.41	3.52	3.08
DR681-100/250	DRV161	4.73	3.78	3.30
DR682-150/300	.....	5.08	4.05	3.54
DR683-60/150	.....	4.76	3.80	3.33

★LARGER QUANTITY PRICES ON REQUEST

EIMAC and VARIAN Tubes

EIMAC SPECIAL PURPOSE TUBES, SOCKETS, CHIMNEYS AND ACCESSORIES

POWER GRID ELECTRON TUBES

EIMAC Number	Net Each	EIMAC Number	Net Each
2C39A, WA	$ 27.00	4CX35,000C/8349	$2400.00
2X1000A	265.00	4D21A	54.00
2-01C	28.60	4E27A/5-125B	100.00
2-25A	53.00	4PR60C/8252W	126.00
2-50A	61.50	4PR65A/8187	50.00
2-150D	90.00	4PR125A/8247	57.00
2-240A	127.00	4PR250C/8248	250.00
2-2000A	420.00	4PR400A/8188	70.00
3C24	44.00	4PR1000A/8189	250.00
3CV1500A7	250.00	4PR1000B	275.00
3CV30,000A1	825.00	4W300B/8249	140.00
3CV30,000A3	710.00	4X150A/7034	32.50
3CV30,000H3	740.00	4X150D/7035	43.00
3CW5000A1/8240	300.00	4X150G/8172	73.00
3CW5000A3/8242	300.00	4X500A	158.00
3CW5000F1/8241	300.00	4-65A/8165	37.00
3CW5000F3/8243	300.00	4-125A/4D21	54.00
3CW5000H3	300.00	4-250A/5D22	57.00
3CW10,000H3	570.00	4-400A/8438	61.00
3CW20,000A1	650.00	4-400B/7527	70.00
3CW20,000A3	650.00	4-400C/6775	67.00
3CW20,000A7	940.00	4-500A	80.00
3CW20,000H3	650.00	4-1000A/8166	190.00
3CW25,000A3	650.00	5CX1500A	250.00
3CW30,000H3	770.00	5CX3000A	510.00
3CW40,000H3	940.00	5-125B	100.00
3CX1000A7/8283	250.00	5-500A	107.00
3CX1500A7/8877	230.00	6C21	140.00
3CX2500A3/8161	220.00	25T	65.00
3CX2500F3/8251	225.00	35T	52.00
3CX2500H3	225.00	75TH, 75TL	71.00
3CX3000A1/8238	260.00	100TH, 100TL	135.00
3CX3000A7	310.00	152TH	150.00
3CX3000F1/8239	265.00	152TL	150.00
3CX3000F7/8162	320.00	175A	127.00
3CX5000A3	580.00	177WA	105.00
3CX5000H3	580.00	250R	57.00
3CX10,000A1/8158	590.00	250TH, 250TL	85.00
3CX10,000A3/8159	590.00	253	85.00
3CX10,000A7/8160	600.00	254W	62.00
3CX10,000H3	590.00	264/8576	520.00
3CX15,000A3	590.00	284	495.00
3CX15,000A7	700.00	290	560.00
3CX15,000H3	590.00	290A	570.00
3CX20,000A3, H3	825.00	304TH, 304TL	110.00
3CX20,000A7	885.00	322	28.60
3-400Z/8163	50.00	450TH, 450TL	113.00
3-500Z	50.00	592/3-200A3	69.00
3-1000Z/8164	127.00	750TL	280.00
4CN15A	155.00	826	57.00
4CPX250K/8590	75.00	1000T	285.00
4CS250R	70.00	1500T, 2000T	500.00
4CV1500B	250.00	5867A	130.00
4CV8000A	520.00	6155	45.50
4CV20,000A	710.00	6156	56.00
4CV35,000A	940.00	6569	85.00
4CV50,000E, J	2500.00	6580	100.00
4CV100,000C/8351	3050.00	6696A	1400.00
4CV250,000A	7500.00	6697A	1650.00
4CW800B, F	380.00	6816	53.50
4CW2000A/8244	266.00	6884	43.00
4CW10,000A/8661	590.00	7211	50.00
4CW25,000A	940.00	7289	34.30
4CW50,000E, J	2500.00	7457	61.50
4CW100,000D	3050.00	7480	1650.00
4CW100,000E	3200.00	7527	70.00
4CW250,000A	7500.00	7609	43.00
4CX125C	71.00	7698	50.00
4CX125F	135.00	7815	34.30
4CX250B/7203	39.00	7815AL	37.00
4CX250F/7204	43.50	7815R	34.30
4CX250FG/8621	43.50	7815RAL, 7815XAL	37.00
4CX250K/8245	76.00	7843	43.00
4CX250M/8246	135.00	7855, 7855K	44.00
4CX250R/7580W	50.00	7855KAL	45.50
4CX300A/8167	70.00	8020 (100R)	50.00
4CX300Y/8561	114.00	8295A/172	250.00
4CX350A/8321	54.00	8403	71.50
4CX350F/8322	57.00	8432	310.00
4CX350FJ/8904	64.00	8533	71.50
4CX600B, F	380.00	8560A, 8560AS	57.00
4CX600J/8809	340.00	8745	38.60
4CX600JA/8921	380.00	8755	127.00
4CX1000A/8168	220.00	8755A	133.00
4CX1000K/8352	275.00	8756, 8757	127.00
4CX1500A	220.00	8847	127.00
4CX1500B/8660	220.00	8847A	133.00
4CX3000A/8169	445.00	8873–8875	50.00
4CX5000A/8170	530.00	8906	43.60
4CX5000J/8909	590.00	8906AL	47.90
4CX5000R/8170W	700.00	8907	43.60
4CX10,000D/8171	590.00	8907AL	47.90
4CX10,000J	650.00	8938	325.00
4CX15,000A/8281	825.00	Y-503	35.75
4CX15,000J/8910	885.00	Y-579	127.00

TUBE EXTRACTORS

For Series 4X150, 4X250 and 2C39 Series.

EIMAC Number	Net Each	EIMAC Number	Net Each
SK-604	$2.80	SK-605	$9.30

AIR SYSTEM SOCKETS

EIMAC Number	Net Each	EIMAC Number	Net Each
SK-184	$125.00	SK-700, SK-710	$107.00
SK-184A	125.00	SK-711A	107.00
SK-209B	125.00	SK-712A	107.00
SK-265A	127.00	SK-740	25.75
SK-291A	107.00	SK-760	25.75
SK-300, A	171.00	SK-761	25.75
SK-310	127.00	SK-770	25.75
SK-400	100.00	SK-800B	85.80
SK-410	14.30	SK-810B	85.80
SK-500	100.00	SK-820	152.00
SK-510	15.70	SK-830A	152.00
SK-600	22.80	SK-831, SK-840	136.00
SK-600A	24.30	SK-860, SK-861	85.80
SK-602	31.00	SK-870, SK-871	85.80
SK-602A	17.00	SK-890B	100.00
SK-607	25.75	SK-900	152.00
SK-610	24.30	SK-1300, SK-1310	127.00
SK-610A	25.75	SK-1320	155.00
SK-611	10.00	SK-1400A	183.00
SK-612	35.75	SK-1420	187.00
SK-620	24.30	SK-1470A, SK-1490	155.00
SK-620A	25.75	SK-1500	425.00
SK-621	27.00	SK-1510	450.00
SK-630	24.30	SK-1710	95.00
SK-630A	25.75	SK-1712	79.00
SK-640	13.60	SK-1900	55.00
SK-650	20.00	SK-1920	7.90
SK-655	22.80	SK-2000	700.00
SK-660, A	12.90	SK-2001	700.00
SK-661	21.50	SK-2200	35.00
SK-661A	23.00	SK-2210	35.00
SK-680	64.00	SK-2220	190.00

CHIMNEYS FOR AIR-SYSTEM SOCKETS

SK-C184, SK-C209	$14.30	SK-636B	$15.45
SK-C265A	13.60	SK-646	25.75
SK-306	12.15	SK-656	25.75
SK-316	13.60	SK-806	18.30
SK-406	14.00	SK-816	14.30
SK-416	14.00	SK-906	28.00
SK-426	14.00	SK-1306	12.60
SK-506	28.00	SK-1406	20.00
SK-516	28.00	SK-1426	17.10
SK-606	5.70	SK-1511	47.00
SK-626	4.30	SK-2216	28.00

UHF TUBE COLLETS

008290	$10.00	008294	$11.40
008291	10.00	882931	10.00
008292	10.00		

VARIAN KLYSTRONS

Varian Number	Net Each	Varian Number	Net Each
BLK-010	$ 262.00	VA-220B, C, D, E, F, G	$240.00
X-12	535.00	VA-221A	260.00
X-13	562.00	VA-211B, C, D, E, F, G, K	245.00
X-13B, C	605.00	VA-221H	325.00
X-26B, D, E, F	535.00	VA-222A, B, C, D, E, F, G	245.00
V-53B, C	530.00	VA-237A, B, C, E, F	980.00
V-54	605.00	VA-237D	810.00
V-55, B	615.00	VA-244A, B, C, E	410.00
V-58	535.00	VA-259A, B, C, E*	345.00
V-58C	590.00	VA-259A, B, C, E†	280.00
VA-92B	565.00	V-262	550.00
VA-92, C	485.00	VA-264	550.00
VA-97	1630.00	VA-287A, B, C	590.00
VA-113	545.00	VA-287D	829.00
VA-114, VA-115	545.00	SFD-305‡, BLM-311‡	815.00
V-153/6315	395.00	VA-508A, E	1070.00
VA-201B	670.00	BLK-829	546.00
VA-203B	246.00	VMX-1025‡, VMX-1027‡	815.00
VA-204	350.00	6310, 6312	258.00
VA-218	265.00	6781/BL-803	258.00
VA-218B	240.00	VA-1011A§	6.30
VA-220A	250.00	VA-1011B§	8.40

*With tuner. †Without tuner. ‡Coaxial magnetron. §Connector and harness.

VARIAN RF SWITCHING DEVICES

Varian Number	Net Each	Varian Number	Net Each	Varian Number	Net Each
BLA-009	$85.00	1B63A	$ 48.00	6396	$49.00
1B24A	63.00	BLT-101	120.00	6591	49.00
1B27	53.00	BTR-547	135.00	6624	83.00
1B35A	39.00	BL-696	65.00	6795	83.00

VARIAN BACKWARD WAVE OSCILLATORS

Varian Number	Freq. GHz	Po mW	Net Each	Varian Number	Freq. GHz	Po mW	Net Each
VA-160V, Y	4–8	40	$1425.00	VA-164P	26.5–40.0	5	$3445.00
VA-162P	12.4–18.0	40	1475.00	VA-164V		5	3445.00
VA-162V		20	1475.00	VA-164Y		5	3445.00
VA-162Y		40	1475.00	VA-173P	8.0–12.4	80	1425.00
VA-163P	18.0–26.5	10	2185.00	VA-173V		50	1425.00
VA-163P, Y		10	2185.00	VA-173Y		65	1425.00

NATIONAL® READOUT AND INDUSTRIAL TUBES

READOUT TUBES

Other combinations of characters available on special order.

0.197″ CHARACTER SIZE

National Type	Socket Code*	Description	Net, 1-99*
NL-8035	.....	8 segment, RH dec. pt.#	$1.90

0.3″ CHARACTER SIZE

NL-4022	A	Standard life (±)	$20.00
NL-4998	H	Min. rectangular, long life (0–9)	23.50
NL-7009	A	Standard life (0–9)	20.00
NL-7009A†	A	Standard life (0–9)	22.00
NL-7977/4032	A	Long life (0–9)	20.00
NL-7977A†	A	Long life (0–9)	22.00
NL-8502/4021	A	Standard life, low voltage (0–9)	34.65

0.325″ CHARACTER SIZE

NL-8051	.....	7 segment, RH dec. pt.#	$1.95

0.460″ CHARACTER SIZE

NL-8063	.....	7 segment, RH dec. pt.#	$2.60

0.5″ CHARACTER SIZE

National Number	Socket Code*	Description	Net, 1-99*
NL-918/5560	.....	Inverted, long life, tipless (0–9)	$17.75
NL-940C	J	Long life (0–9)	6.75
NL-940CS	J	Long life (0–9)	6.75
NL-950C	J	Long life (0–9)	6.75
NL-950CS	J	Long life (0–9)	6.75
NL-1222‡	.....	Long life, RH dec. pt. (0–9)	5.25
NL-5853S,-ST	J	Long life (0–9)	6.75
NL-5859C	J	Long life (0–9)	6.75
NL-5859CS	J	Long life (0–9)	6.75
NL-5866S,-ST	J	Long life (±)	6.75
NL-5870‡	J	Long life (0–9)	6.75

0.550″ CHARACTER SIZE

NL-8060	.....	10 segment, RH dec. pt.#	$3.60

0.6″ CHARACTER SIZE

NL-809	B	Long life rect., LH dec. pt. (0–9)	$18.20
NL-840/8754	D	Long life (0–9)	8.65
NL-841	D	Long life, LH dec. pt. (0–9)	9.10
NL-842	D	Long life, RH dec. pt. (0–9)	9.10
NL-843	D	Long life (±)	8.65
NL-844	D	High contrast NL-840	8.65
NL-845	D	High contrast NL-841	9.10
NL-848	G	Long life, RH/LH dec. pts. (0–9)	9.45
NL-874	D	Inverted NL-840	9.10
NL-875	D	Inverted, long life, LH decimal point (0–9)	9.45
NL-876	D	NL-875 except RH decimal point	9.45
NL-900	D	Long life, tipless (0–9)	10.00
NL-901	D	NL-900 with LH decimal point	10.90
NL-902	D	NL-900 with RH decimal point	10.90
NL-903	D	Long life, tipless (±)	10.00
NL-904	D	Inverted, lg. life, tipless (0–9)	10.65
NL-905	D	NL-904 with LH decimal point	11.50
NL-5016	C	Standard life (±)	15.75
NL-5032	C	Long life (±)	15.75
NL-5440	K	Long life (0–9)	8.80
NL-5440A	K	Long life, tipless (0–9)	9.25
NL-5441	K	Long life, LH/RH dec. pts. (0–9)	9.25
NL-5441A	K	NL-5441, tipless	9.60
NL-5442	K	Long life (±)	8.80
NL-5442A	K	Long life, tipless (±)	9.25
NL-5961	B	Non-mercury rectangular (0–9)	33.60
NL-5971	B	Long life, alpha numeric	30.00
NL-5992	B	Long life, rectangular (±)	16.50
NL-6844A	C	Standard life (0–9)	11.55
NL-8037/5031	C	Long life (0–9)	16.50
NL-8421/5092	C	Long life, wide angle (0–9)	16.50
NL-8422/5991	B	Long life, rectangular (0–9)	16.50
NL-50911	C	Long life, wide angle (±)	16.50

0.8″ CHARACTER SIZE

NL-807	D	Long life (0–9)	$11.55
NL-821	D	Long life, LH decimal point (0–9)	12.15
NL-6012	C	Standard life (±)	20.00
NL-6034	C	Long life (±)	20.00
NL-7153	C	Standard life (0–9)	15.20
NL-8423/6091	C	Long life, wide angle (0–9)	20.00

1.375″ CHARACTER SIZE

NL-8091	E	Long life, wide angle (0–9)	$23.60

2.0″ CHARACTER SIZE

NL-7037	E	Long life, side view (0–9)	$27.30
NL-7094	E	Long life, wide angle (0–9)	45.00

*Tube fits sockets with same code; above right. †Contain radioactive gas for improved dark ionization. All other types available with radioactive gas at 10% additional charge. ‡S and ST versions available at same price. #Phosphor tube.

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST

READOUT TUBE SOCKETS

MIL spec material except as otherwise noted.

National Type	Skt Code	Net, 1-99*	National Type	Skt Code	Net, 1-99*	National Type	Skt Code	Net, 1-99*
RTS-1	C	$0.90	RTS-10	B	$0.90	RTS-47	D, G	$0.80
RTS-2*	C	.75	RTS-11	D	1.05	RTS-48*	D, G	.40
RTS-3	A	1.05	RTS-13	C	.90	RTS-49	D	.80
RTS-4	B	.90	RTS-14*	D	.40	RTS-50*	D	.40
RTS-5	E	1.30	RTS-15*	D†	.40	RTS-54*	K	.90
RTS-6*	C	.85	RTS-18*	D, G	.40	RTS-55*	K	.90
RTS-8	C	.90	RTS-44	J	.54	RTS-56*	K	.90

*Commercial grade material. †For use with tubes without decimal.

POWER TUBES

Ignitron water connectors and thermostat kits; lug base tube sockets for rectifiers and thyratrons also available on request.

THYRATRONS

National No.	Net Each
FG-105	$ 60.10
NL-C3J/AL	19.35
NL-C3J/AL-Ne*	24.20
NL-C3J/L	18.95
NL-3C23	13.20
NL-C6H-1	35.85
NL-C6H-2	35.45
NL-C6H-3	31.45
NL-C6J	32.60
NL-C6J/K	35.85
NL-C6J/K-Ne*	42.45
NL-C6J-KP	36.85
NL-C6J/L	33.95
NL-C6J/P	33.60
NL-KY21A	43.30
NL-323B, NL-393A	15.40
NL-632B	37.45
NL-677	92.80
NL-678	57.20
NL-710/6011	14.45
NL-710A	21.30
NL-710L/7518	16.55
NL-714	14.00
NL-716	13.90
NL-718	107.25
NL-732	300.00
NL-734/5544	34.55
NL-734L	36.55
NL-740/6856	28.55
NL-740L/7022	29.45
NL-740P/6857	29.45
NL-741	50.00
NL-760	32.80
NL-760L	33.80
NL-760P	33.80
NL-761	69.35
NL-770L	70.70
NL-770P	70.70
NL-780	131.30
NL-2050A	2.70
NL-5557/FG-17/715	10.45
NL-5559/FG57	25.30
NL-5560/FG95	36.30
NL-5563A	60.15
NL-5632/C3J	15.45
NL-5665/C16J	60.50
NL-5684/C3J/A	15.65
NL-5684-Ne*	19.80
NL-5684A-Ne*	21.30
NL-5869/9950	36.75
NL-6014/C1K	13.90
NL-6989/C6J/KL	36.35
NL-6989-Ne*	39.15
NL-7556A-Ne*	22.80
NL-8270	142.50

IGNITRONS

NL-1001	$ 90.00
NL-1005A	149.80
NL-1009A	170.00
NL-1009AP	174.00
NL-1011A	78.00
NL-1012A	117.75
NL-1013A	330.00
NL-1014A	1016.50
NL-1016A	187.00
NL-1022A	132.00
NL-1031	75.00
NL-1032A	112.00
NL-1036	82.50
NL-1037	147.00
NL-1038	363.00
NL-1039	146.00
NL-1040	1075.00
NL-1042	126.00
NL-1051A	75.00
NL-1051AP	77.00
NL-1052A	112.00
NL-1052AP	115.00
NL-1053A	320.00
NL-1054A	970.00
NL-1059A	364.00
NL-1061	75.00
NL-1061P	77.00

IGNITRONS (Continued)

National No.	Net Each
NL-1062	$112.00
NL-1062P	115.00
NL-1063	320.00
NL-1064	997.00
NL-1066/7670	86.00
NL-1067	143.00
NL-1069	182.00
NL-1071	78.00
NL-1071P	80.00
NL-1072	117.75
NL-1072P	120.75
NL-1073	330.00
NL-1074	1048.25
NL-1079	187.00
NL-1081	88.50
NL-1081P	90.50
NL-1082	125.70
NL-1082P	128.70
NL-1091	88.50
NL-1091P	90.50
NL-1092	125.70
NL-1092P	128.70
NL-5550	58.00
NL-5551A	75.00
NL-5551AP	77.00
NL-5552A	112.00
NL-5552AP	115.00
NL-5553B	285.00
NL-5553BL, BP	290.00
NL-5554	245.00
NL-5555, A	370.00
NL-5564	1110.00
NL-5630	2530.00
NL-5788	800.00
NL-6228	3700.00
NL-7171	68.00
NL-7669	75.00
NL-7669P	77.00
NL-7671	112.00
NL-7671P	115.00
NL-7673	285.00
NL-7673P	290.00
NL-7703, H	200.00
NL-7736	1160.00
NL-7998	190.00
NL-7998P	194.00
NL-8360	78.00

FULL-WAVE RECTIFIERS

NL-604	$ 19.70
NL-604L	21.45
NL-606	28.60
NL-606L	31.10
NL-7723-Ne*	17.25
NL-7786-Ne*	27.45
NL-8008	14.00

HALF-WAVE RECTIFIERS

NL-RX21A	$ 41.60
NL-575A	22.40
NL-610/7723	15.50
NL-615	13.90
NL-616	17.65
NL-617	20.60
NL-619	14.35
NL-623	20.20
NL-625	54.55
NL-627	56.45
NL-635/7019	19.00
NL-635L/7020	20.00
NL-635P/6930	20.00
NL-643	19.80
NL-649/5834	17.35
NL-653/5835	26.00
NL-660	23.30
NL-660L/7786	25.10
NL-660P	25.10
NL-664L	41.75
NL-673	24.35
NL-869B	140.00
NL-869B/L	140.00
NL-872A	14.75
NL-5558/FG32	19.25
NL-6894, NL-6895	27.35

*Life indicating tube; changes color to show approach of end of tube life.

NATIONAL® READOUT TUBE DRIVERS AND ACCESSORIES AVAILABLE ON REQUEST

RCA GENERAL PURPOSE INDUSTRIAL TUBES

RCA Type	Net Each	RCA Type	Net Each
OA2	$ 1.71	12AT7WB	$ 3.49
OA2WA*	4.02	12AY7	3.60
OA3*	2.03	17DWP4	60.00
OA3A	1.92	21EYP4	49.50
OA4G	3.21	26A7GT*	11.18
OB2	1.85	83*	4.93
OB2WA*	3.18	105	60.10
OC2	2.20	407A	6.36
OC3*	1.95	408A	5.95
O3D*	1.95	575A*	29.70
OC3A	2.08	579B	25.20
OD3A	1.94	604/7014	19.70
1C21	6.58	615/7018	13.90
1EP1*	40.35	627	41.95
1EP11	40.95	632B	35.00
1P21*	62.30	672A	46.90
1P22	23.25	673	29.05
1P28	26.15	676, 677	81.60
1P28/V1	40.25	710/6011	14.45
1P28A	34.85	714/7021	14.00
1P28A/V1	50.40	760/6858	32.80
1P29	13.50	807*	6.35
1P37	15.35	810*	42.00
1P39	9.65	811A*	9.70
1P40	12.55	812A	9.30
1P41	10.80	813*	36.65
1P42	36.55	816	6.65
2AP1A*	31.85	828	48.50
2BP1*	38.15	829B*	27.70
2C39WA/C	27.50	832A*	22.00
2C39WA/G	42.00	833A*	77.50
2C43	33.25	845	40.65
2D21	1.87	857B	275.00
2E24*	13.00	866A	5.60
2E26*	5.85	868	9.90
2X2A*	6.45	869B	142.00
3A4*	3.03	872A	14.80
3A5*	4.25	884*	4.43
3AP1A	67.20	891R	590.00
3AQP1	34.35	892	430.00
3B28*	12.55	892R	560.00
3BP1A*	47.45	902A	30.90
3C23	13.20	917	15.15
3D22A	60.50	918	13.00
3E29*	26.95	919	14.70
3FP7A	70.95	920	19.60
3KP1*	45.50	921	11.00
3RP1*	24.65	922*	6.70
3RP1A*	49.70	923	9.15
3RP7A	49.70	926	7.10
3WP1	52.30	927	15.70
3WP11	52.50	929	11.00
4-125A/4D21	54.00	930	11.15
4-250A/5D22	57.00	931A	15.00
4CX250B	39.00	931B	16.55
4E27A/5-125B	100.00	931VA*	15.70
4X150A	32.50	934	14.40
4X500A	158.00	935	18.65
5ABP1	65.30	959	17.46
5ADP1*	65.30	991	2.45
5ADP31	65.30	1612	16.44
5AZP4	195.00	1614	13.70
5BP1A*	60.50	1616*	22.65
5CP1A*	55.65	1619	14.14
5FP7A*	72.10	1620	13.88
5R4GYB	2.93	1621	11.95
5UP1*	26.60	1622	12.55
5UP7*	39.70	1624*	14.50
5UP31	36.20	1625*	8.15
6AH6WA	8.25	1629	4.12
6AK6*	1.77	1946	22.40
6AN5	4.56	1947	61.60
6AS6	4.43	1949	32.90
6AS7G*	6.21	2022	9.60
6AS7GA	6.14	2033	4.12
6AU6WB	3.74	2042	115.00
6D4	4.25	2050	2.87
6DJ8/ECC88	2.68	2050A	2.85
6J4	6.40	2055	20.60
6J6WA*	6.30	2076/5R4GYB	2.75
6X4W	3.10	2081/6AW8A	**
7MP7*	76.00	2082/12AY7	**
7TP4	91.10	4028A	45.85
7VP1	46.90	4037A	31.85
7VP31	42.45	4042	16.65
8HP4	71.10	4043	15.80
8NP4	59.50	4055, /V1	56.30
8QP4	63.00	4058	16.30
12A6	7.19	4062A	53.15
12AT7WA	3.46	4065	53.75

RCA Type	Net Each	RCA Type	Net Each
4407	$ 64.40	6550	$ 6.95
4422	12.85	6550/V1†	13.93
4510	45.30	6570	20.00
4531	98.95	6626/OA2WA	4.11
4552	15.00	6655A	95.00
4604	12.90	6660/6BA6	2.23
4621	202.00	6661/6BH6	2.66
4652/8042	18.80	6662/6BJ6	2.65
4818	60.00	6663/6AL5	1.92
5550	56.45	6664/6AB4	2.48
5551A	77.15	6669/6AQ5A	2.13
5552A	125.00	6676/6CB6A	2.12
5556	81.00	6677/6CL6	3.22
5557	10.45	6678/6U8A	2.54
5558	19.25	6679/12AT7	2.30
5559	25.30	6680/12AU7A	1.96
5560	37.15	6681/12AX7A	1.85
5561	74.45	6686	6.00
5563A	68.00	6688A	9.54
5581	12.70	6816*	62.75
5582	12.55	6850	37.75
5583	15.00	6883	5.75
5636	6.10	6883B/8032A/8552	6.70
5651A	2.29	6884*	40.45
5651WA*	4.50	6894, 6895	27.35
5654	2.73	6897	46.85
5663	3.06	6922/E88CC	5.35
5670	3.57	6939	16.40
5675*	11.85	6953	14.25
5686	4.97	6977	3.41
5687	5.39	7038*	195.00
5691*	11.02	7054	2.19
5692	9.85	7055	2.12
5693*	12.21	7056	1.32
5696*	2.55	7057	3.39
5696A	2.43	7058	2.59
5718	4.43	7059	2.17
5725	4.25	7060	2.43
5726*	2.72	7061	2.78
5727*	3.74	7094	63.15
5734	57.82	7102	120.00
5749	3.78	7117	16.00
5750	4.86	7167	2.10
5751*	3.66	7204/4CX250F	43.50
5762*	400.00	7258	2.66
5763*	3.00	7262A	205.00
5771	815.00	7265	415.00
5786	410.00	7271	58.35
5814A*	3.39	7289/3CX100A5	34.30
5819*	110.00	7308	6.40
5823	2.15	7360	6.60
5824	5.45	7457*	69.55
5825	51.25	7551*	4.60
5840W	5.78	7552	51.70
5842/417A	9.08	7553	57.20
5847/404A	15.04	7554*	56.90
5876A*	12.25	7558*	4.26
5881	3.13	7586*	7.09
5893*	22.75	7587*	13.11
5899	5.55	7651*	311.00
5915*	2.47	7735	45.50
5946*	206.15	7735A*	125.00
5963*	2.31	7735B	195.00
5964	2.38	7764	170.00
5965	2.78	7767	145.00
6005	4.57	7788	15.55
6012*	10.29	7801	369.00
6021	5.87	7843*	39.00
6072	4.47	7895*	7.24
6072A	4.78	7898	2.78
6073	3.70	7905	8.11
6074	4.60	8000	37.40
6074/OB2	4.56	8005	26.60
6076	375.00	8008	14.70
6076A	350.00	8020W	16.50
6080	6.71	8032	5.95
6080WA	12.12	8053	125.00
6101	6.88	8054	130.00
6130/3C45	30.85	8055	170.00
6136	4.01	8056*	7.98
6146A	5.65	8058*	19.45
6146B/8298A	8.30	8072	29.70
6146W*	7.60	8077/7054	1.96
6155	46.00	8106	2.15
6159B	7.05	8121	38.40
6159W*	10.80	8122	39.50
6161*	189.40	8122/V1†	130.00
6173	19.60	8134	150.00
6189	4.32	8136	1.77
6197*	3.55	8165/4-65A	37.00
6199	69.90	8166/4-1000A	190.00
6201	4.04	8167/4CX300A	70.00
6202	3.03	8168/4CX1000A	220.00
6211*	3.11	8169/4CX3000A	445.00
6217	110.00	8170/4CX5000A	530.00
6293*	6.90	8171/4CX10000D	590.00
6328	18.65	8203	7.26
6336A	33.04	8226	94.20
6342A	80.00	8233	20.82
6350	2.96	8234	**
6360	8.43	8251/3CX2500F3	225.00
6360A	6.25	8281/4CX15000A	825.00
6386	10.34	8393	7.87
6417	3.84	8438/4-400A	61.00
6485	2.48	8438A/4-400AX	66.00
6524	38.80		

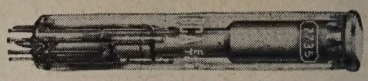
*MIL qualification approval; spec data available on request. †Matched pair. **Price on request.

Prices shown do not include state or local sales and similar taxes. All prices subject to change or withdrawal without notice.

RCA GENERAL PURPOSE AND SPECIAL INDUSTRIAL TUBES, DIGITAL READOUTS

GENERAL PURPOSE INDUSTRIAL TUBES (CONTINUED)

RCA Type	Net Each	RCA Type	Net Each
8462	$ 64.70	8627A	$ 57.90
8507	75.90	8628	9.15
8507A	200.00	8644	335.00
8541	87.00	8645	440.00
8541A	200.00	8793	1030.00
8541A/X	390.00	8808	26.77
8571	260.00	8844	48.50
8627	17.84	9001*	6.82



RCA Type	Net Each	RCA Type	Net Each
9003*	$ 7.19	C3J/L	$ 20.90
C1K/6014	16.25	C6J/5C21	35.10
C3J/5632	17.60	C6JA/5685	35.40
C3JA/5684	17.90	C16J/5665	64.35

*MIL qualification approval; spec data available on request. **Price on request.

SPECIAL INDUSTRIAL TUBES

RCA Type	Net Each	RCA Type	Net Each	RCA Type	Net Each	RCA Type	Net Each
2K26	$ 68.00	4517	$ 105.00	4816	$ 820.00	8134/V3	$ 410.00
3CX3000A7	310.00	4518	115.00	4817	820.00	8184	2680.00
3CX5000H3	580.00	4520	325.00	4826 SCI	3440.00	8521	675.00
3CX10000A7	600.00	4522	645.00	4826 SCI (P1-P2)	3775.00	8572/V	240.00
3CX10000H3	590.00	4523	130.00	4826 SUR	4000.00	8572A	240.00
3CX20000A7	885.00	4523V1	125.00	4826 SUR (P1-P2)	4330.00	8575	345.00
5AUP24	170.00	4524	130.00	4826 PRO	6000.00	8575/V1	360.00
5ZP16	190.00	4524/V4	130.00	4826 PRO (P1-P2)	6410.00	8575/V2	345.00
7NP4, 7WP4	1300.00	4525	170.00	4826 PRE	8975.00	8587*	**
9C25	3330.00	4526	430.00	4826 PRE (P1-P2)	9325.00	8596*	122.00
10SP4	115.00	4526/V1	350.00	4832	310.00	8605-1	850.00
1699	**	4532	555.00	4833	325.00	8605-2	600.00
2041*, 2054	**	4532A	1010.00	4836	270.00	8606	1890.00
2060	69.70	4532B	455.00	4837	110.00	8727	45.15
2061	75.90	4542	200.00	4846	210.00	8748, 8749	2150.00
2063	120.00	4543	1020.00	4846B	240.00	8775	2100.00
2064B	125.00	4547	1593.00	4849	3440.00	8794	1030.00
2065	155.00	4550	100.00	4849A	4775.00	8806	690.00
4012, 4013	**	4557	270.00	5671	3321.00	8807	1250.00
4015, 4017	**	4559A/8507A	480.00	5713	1017.00	8828	135.00
4019-4021	**	4565-4568	29.55	5770	2517.00	8850	620.00
4041	**	4572	1285.00	6263A*	17.20	8852, 8853	705.00
4053, 4054	**	4583-4585	420.00	6264A*	17.20	8854	1110.00
4076	14.85	4589	390.00	6499	345.00	8857/V1	500.00
4401/V3	1580.00	4600A	**	6521, 6521R	1000.00	8857/V2	440.00
4412	3765.00	4616	391.00	6521A, 6521AR	1040.00	8858	1870.00
4441	180.00	4624	891.00	6562/5794A	**	8890	750.00
4445	940.00	4626	1410.00	6810A	260.00	8891	1135.00
4449A	**	4628	470.00	6861	**	8916	1335.00
4454	1065.00	4629	2565.00	6949, 6950	**	AJ2132‡	49.00
4456	670.00	4630	115.00	6952*	**	AJ2142§	82.80
4460	300.00	4631	1322.00	7038/V	195.00	AJ2143§	42.00
4463	275.00	4632	405.00	7183A	1020.00	AJ2143A§	40.25
4464	310.00	4634/V1	3363.00	7213	500.00	AJ2144♯, 2145♯	15.50
4465	340.00	4635	162.00	7214	509.00	AJ2180•	39.50
4486	1210.00	4637	874.00	7263A	400.00	AJ2190▲	345.00
4490	43.70	4638	473.00	7315*	1060.00	AJ2191▲	225.00
4491	51.30	4651	712.00	7533*	12.45	AJ2215	245.00
4501/V3	265.00	4661	69.85	7539	1950.00	MW4900■	320.00
4501V4	400.00	4662	614.00	7642	1450.00	MW4901■	495.00
4503A	585.00	4665	190.00	7649	194.00	PF1028	340.00
4506	1515.00	4802	170.00	7650*	318.00	PF1028B	455.00
4507, 4516	175.00			7835*	**		

*Also available to MIL specifications. †Sold in matched sets of three; and as replacements matched to a set. ‡Socket for 8575. §Adapter for 4522. ♯Socket for 4522 and 8575. •Socket for 8575 and 8850. ▲Coolant separator for 4664. ■Solenoid for TW tubes. **Price on request.

NUMITRON DIGITAL DISPLAY DEVICES

DR2000 Series

DR2100, DR2200 Series

Low voltage digital readout devices with sharp, high brightness numeric display, reliable at all light levels, indoors and out. Fully compatible with IC decoder/drivers and may be operated in either a direct or multiplex mode. Wide spectrum light emission permits use of unlimited color filters. Simple voltage controls make brightness fully adjustable. High contrast segmented digits viewed against dark background. "Upfront" display permits wide-angle viewing (120°–140°) with display free of "clutter" and residual images. Incandescent readout device is free from induced or radiated interference. Rugged, single-plane unit construction for reliable service with 100,000 hours min. life expectancy. Solderable base pins permit direct PC board mounting. In addition to numerals, plus or minus, and decimals, individual segments may be addressed to provide symbol or alphabetic output such as letters A, C, E, F, H, J, L, P, U and Y.

DR2000 Series: Fits low cost 9-pin miniature sockets; 0.8″ mounting centers. Character size, 0.6″ h. x 0.35″ w.

DR2100 and DR2200 Series: Fit TO-5 style, 10-pin sockets; 0.5″ mounting centers. Character size, 0.4″ h. x 0.234″ w.

Application information and specifications available on request.

RCA Type	NUMITRON Description	Net, 1-99*
DR2000	Numerals 0 thru 9	$5.50
DR2010	Numerals 0 thru 9 with decimal	5.75
DR2020	Plus or minus and numeral 1	3.25
DR2030	Plus or minus	3.25
DR2100*	Numerals 0 thru 9	5.75
DR2110*	Numerals 0 thru 9 with decimal on left	5.90
DR2120*	Plus or minus and numeral 1	3.25
DR2130*	Plus or minus	3.25
DR2200*	Low power version of DR2100	5.75
DR2210*	Low power version of DR2110	5.90
DR2220*	Low power version of DR2120	3.25
DR2230*	Low power version of DR2130	3.25

*Available with leads bent to form a 0.38″ pin circle for ease of direct PC board mounting. To order, add suffix **V1** (DR2100**V1**, DR2200**V1**); price is the same. ***Larger quantity prices on request.**

Prices shown do not include state or local sales and similar taxes. All prices subject to change or withdrawal without notice.

ELECTRONS INDUSTRIAL TUBES

Feature superior design and construction as developed by Electrons Co. after systematic research with gaseous discharges since 1928. Manufactured by specialists, these tubes meet the demands for power tubes of extreme reliability. All tubes are covered under warranty. Complete information on ratings, warranties and any other special data available on request.

RECTIFIERS

Suffix **C** or **C/L** in Type No. indicates full wave rectifier; all others are half wave rectifiers.

Electrons Type	Net Each	Electrons Type	Net Each	Electrons Type	Net Each
EL 1C	$17.15	EL 6B	$32.75	EL 6F	$33.75
EL 3B	17.90	EL 6B/L	33.75	EL 16B	82.95
EL 3C	22.75	EL 6C	33.75	EL 16F	90.80
EL 3C/L	25.00	EL 6C/L	34.90		.....

THYRATRONS

Electrons Type	Net Each	Electrons Type	Net Each	Electrons Type	Net Each
EL C1A	$17.90	EL C4H-2	$41.80	EL C6J	$35.00
EL C1B	21.40	EL C4H-3	38.25	EL C6J/A	35.70
EL C1B/A	22.15	EL C4H-4	39.00	EL C6J/F	34.30
EL C1J/A	18.15	EL C4H-5	39.00	EL C6J/K	37.20
EL C1K	16.25	EL C6A	54.35	EL C6J/KF	37.40
EL C1K/B	20.75	EL C6C	76.15	EL C6J/KL	33.10
EL C3J	17.60	EL C6H-1	37.20	EL C6J/L	36.50
EL C3J/A	17.90	EL C6H-2	38.40	EL C16H	75.70
EL C3J/AL	20.80	EL C6H-3	34.35	EL C16J	68.65
EL C3J/L	21.00	EL C6H-4	41.50		
EL C4H-1	35.75	EL C6H-5	41.50		

LUG BASE TUBE SOCKET

Electrons No. LBTS-1—Net Each.....**$2.60**

884-75A

LITTELFUSE HOLDERS

MOUNTINGS FOR CARTRIDGE TYPE RECTIFIERS

L.F. No.	Description	Net Each	Net per 1000	
			1-99	100-499
099062	Single pole, 3/16" base	$0.53	$318.00	$265.00
099063	Double pole, 3/16" base	.91	546.00	455.00
099065	Double pole, 1/16" base	.63	378.00	315.00
099065-3	1/16" Bakelite® insulator	.059	35.40	29.50
099067	Single pole 1/16" base	.31	186.00	155.00
099067-3	1/16" Bakelite insulator	.041	24.60	20.50

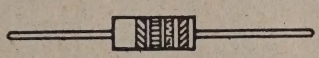
®Registered Bakelite Corp. trademark.

2045Y-75A

STACKPOLE

FIXED COMPOSITION RESISTORS

Standard Values in ¼, ½, 1 and 2 Watt Types



Extremely reliable fixed composition resistors for commercial and stringent industrial and military applications. Meet or exceed the requirements of MIL-R-11 including such essential characteristics as load life and moisture resistance. Cold molded construction assures the utmost uniformity from lot to lot. Component materials as well as finished resistors are repeatedly tested, inspected and checked in pre-production stages, during manufacture, upon completion and after storage. Standard EIA color-coding for easy identification; glossy finish cannot be scrubbed off with commercially used flux solvents. **Body Size:** ¼-watt, .250" lg. x .090" dia.; ½-watt, .375" lg. x .138" dia.; 1-watt, .562" lg. x .225" dia.; 2-watt, .688" lg. x .318" dia.

STOCK VALUES

Tolerance of ±5% available in all values; ±10% available only in values in **bold** type.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
2.7	16	**100**	620	**3900**	24000	**0.1**	0.62	**3.9**
3.0	**18**	110	**680**	4300	**27000**	0.11	**0.68**	4.3
3.3	20	**120**	750	**4700**	30000	**0.12**	0.75	**4.7**
3.6	**22**	130	**820**	5100	**33000**	0.13	**0.82**	5.1
3.9	24	**150**	910	**5600**	36000	**0.15**	0.91	**5.6**
4.3	**27**	160	**1000**	6200	**39000**	0.16	**1.0**	6.2
4.7	30	**180**	1100	**6800**	43000	**0.18**	1.1	**6.8**
5.1	**33**	200	**1200**	7500	**47000**	0.20	**1.2**	7.5
5.6	36	**220**	1300	**8200**	51000	**0.22**	1.3	**8.2**
6.2	**39**	240	**1500**	9100	**56000**	0.24	**1.5**	9.1
6.8	43	**270**	1600	**10000**	62000	**0.27**	1.6	**10.0**
7.5	**47**	300	**1800**	11000	**68000**	0.30	**1.8**	11.0
8.2	51	**330**	2000	**12000**	75000	**0.33**	2.0	**12.0**
9.1	**56**	360	**2200**	13000	**82000**	0.36	**2.2**	13.0
10	62	**390**	2400	**15000**	91000	**0.39**	2.4	**15.0**
11	**68**	430	**2700**	16000	.....	0.43	**2.7**	16.0
12	75	**470**	3000	**18000**	.....	**0.47**	3.0	**18.0**
13	**82**	510	**3300**	20000	.....	0.51	**3.3**	22.0
15	91	**560**	3600	**22000**	.....	**0.56**	3.6	**22.0**

INDUSTRIAL NET PRICES

±5% TOLERANCE

Stackpole No.	W	Resistance Range	Net per Hundred			
			1-99	100-249	250-499	500-999
RC-07	¼	10 ohms–1.0 meg	$28.50	$16.80	$11.50	$ 7.70
RC-20	½	2.7 ohms–22 megs	23.87	14.27	9.47	7.17
RC-32	1	2.7 ohms–22 megs	35.82	21.45	16.05	12.35
RC-42	2	10 ohms–22 megs	47.72	28.52	23.72	21.22

±10% TOLERANCE

RC-07	¼	10 ohms–1.0 meg	$13.80	$ 8.30	$ 5.50	$ 3.80
RC-20	½	2.7 ohms–22 megs	12.00	7.20	4.80	3.20
RC-32	1	2.7 ohms–22 megs	18.00	10.80	7.20	5.80
RC-42	2	10 ohms–22 megs	24.00	14.40	12.00	10.20

STANDARD PACKAGE IS 10 PIECES
MIL TYPE RCR ALSO AVAILABLE
309X-75A

STANDARD PRECISION RESISTANCE VALUES

MILITARY STANDARD 90169A (MIL-BELL)

Tolerances: ±1% available in all values listed; figures with * are also available in ±2% values; figures with † are also available in ±2% and ±5% values.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1.00†	5.11†	26.1†	133†	681†	3,480†	17.8K†	90.9K†	464K†	2.37 meg.†
1.02	5.23	26.7	137	698	3,570	18.2K	93.1K	475K	2.43 meg.
1.05*	5.36*	27.4*	140*	715*	3,650*	18.7K*	95.3K*	487K*	2.49 meg.*
1.07	5.49	28.0	143	732	3,740	19.1K	97.6K	499K	2.55 meg.
1.10†	5.62†	28.7†	147†	750†	3,830†	19.6K†	100K†	511K†	2.61 meg.†
1.13	5.76	29.4	150	768	3,920	20.0K	102K	523K	2.67 meg.
1.15*	5.90*	30.1*	154*	787*	4,020*	20.5K*	105K*	536K*	2.74 meg.*
1.18	6.04	30.9	158	806	4,120	21.0K	107K	549K	2.80 meg.
1.21†	6.19†	31.6†	162†	825†	4,220†	21.5K†	110K†	562K†	2.87 meg.†
1.24	6.34	32.4	165	845	4,320	22.1K	113K	576K	2.94 meg.
1.27*	6.49*	33.2*	169*	866*	4,420*	22.6K*	115K*	590K*	3.01 meg.*
1.30	6.65	34.0	174	887	4,530	23.2K	118K	604K	3.09 meg.
1.33†	6.81†	34.8†	178†	909†	4,640†	23.7K†	121K†	619K†	3.16 meg.†
1.37	6.98	35.7	182	931	4,750	24.3K	124K	634K	3.24 meg.
1.40*	7.15*	36.5*	187*	953*	4,870*	24.9K*	127K*	649K*	3.32 meg.*
1.43	7.32	37.4	191	976	4,990	25.5K	130K	665K	3.40 meg.
1.47†	7.50†	38.3†	196†	1,000†	5,110†	26.1K†	133K†	681K†	3.48 meg.†
1.50	7.68	39.2	200	1,020	5,230	26.7K	137K	698K	3.57 meg.
1.54*	7.87*	40.2*	205*	1,050*	5,360*	27.4K*	140K*	715K*	3.65 meg.*
1.58	8.06	41.2	210	1,070	5,490	28.0K	143K	732K	3.74 meg.
1.62†	8.25†	42.2†	215†	1,100†	5,620†	28.7K†	147K†	750K†	3.83 meg.†
1.65	8.45	43.2	221	1,130	5,760	29.4K	150K	768K	3.92 meg.
1.69*	8.66*	44.2*	226*	1,150*	5,900*	30.1K*	154K*	787K*	4.02 meg.*
1.74	8.87	45.3	232	1,180	6,040	30.9K	158K	806K	4.12 meg.
1.78†	9.09†	46.4†	237†	1,210†	6,190†	31.6K*	162K†	825K†	4.22 meg.†
1.82	9.31	47.5	243	1,240	6,340	32.4K	165K	845K	4.32 meg.
1.87*	9.53*	48.7*	249*	1,270*	6,490*	33.2K*	169K*	866K*	4.42 meg.*
1.91	9.76	49.9	255	1,300	6,650	34.0K	174K	887K	4.53 meg.
1.96†	10.0†	51.1†	261†	1,330†	6,810†	34.8K†	178K†	909K†	4.64 meg.†
2.00	10.2	52.3	267	1,370	6,980	35.7K	182K	931K	4.75 meg.
2.05*	10.5*	53.6*	274*	1,400*	7,150*	36.5K*	187K*	953K*	4.87 meg.*
2.10	10.7	54.9	280	1,430	7,320	37.4K	191K	976K	4.99 meg.
2.15†	11.0†	56.2†	287†	1,470†	7,500†	38.3K†	196K†	1.00 meg.†	5.11 meg.†
2.21	11.3	57.6	294	1,500	7,680	39.2K	200K	1.02 meg.	5.23 meg.
2.26*	11.5*	59.0*	301*	1,540*	7,870*	40.2K*	205K*	1.05 meg.*	5.36 meg.*
2.32	11.8	60.4	309	1,580	8,060	41.2K	210K	1.07 meg.	5.49 meg.
2.37†	12.1†	61.9†	316†	1,620†	8,250†	42.2K†	215K†	1.10 meg.†	5.62 meg.†
2.43	12.4	63.4	324	1,650	8,450	43.2K	221K	1.13 meg.	5.76 meg.
2.49*	12.7*	64.9*	332*	1,690*	8,660*	44.2K*	226K*	1.15 meg.*	5.90 meg.*
2.55	13.0	66.5	340	1,740	8,870	45.3K	232K	1.18 meg.	6.04 meg.
2.61†	13.3†	68.1†	348†	1,780†	9,090†	46.4K†	237K†	1.21 meg.†	6.19 meg.†
2.67	13.7	69.8	357	1,820	9,310	47.5K	243K	1.24 meg.	6.34 meg.
2.74*	14.0*	71.5*	365*	1,870*	9,530*	48.7K*	294K*	1.27 meg.*	6.49 meg.*
2.80	14.3	73.2	374	1,910	9,760	49.9K	255K	1.30 meg.	6.65 meg.
2.87†	14.7†	75.0†	383†	1,960†	10.0K†	51.1K†	261K†	1.33 meg.†	6.81 meg.†
2.94	15.0	76.8	392	2,000	10.2K	52.3K	267K	1.37 meg.	6.98 meg.
3.01*	15.4*	78.7*	402*	2,050*	10.5K*	53.6K*	274K*	1.40 meg.*	7.15 meg.*
3.09	15.8	80.6	412	2,100	10.7K	54.9K	280K	1.43 meg.	7.32 meg.
3.16†	16.2†	82.5†	422†	2,150†	11.0K†	56.2K†	287K†	1.47 meg.†	7.50 meg.†
3.24	16.5	84.5	432	2,210	11.3K	57.6K	294K	1.50 meg.	7.68 meg.
3.32*	16.9*	86.6*	442*	2,260*	11.5K*	59.0K*	301K*	1.54 meg.*	7.87 meg.*
3.40	17.4	88.7	453	2,320	11.8K	60.4K	309K	1.58 meg.	8.06 meg.
3.48†	17.8†	90.9†	464†	2,370†	12.1K†	61.9K†	316K†	1.62 meg.†	8.25 meg.†
3.57	18.2	93.1	475	2,430	12.4K	63.4K	324K	1.65 meg.	8.45 meg.
3.65*	18.7*	95.3*	487*	2,490*	12.7K*	64.9K*	332K*	1.69 meg.*	8.66 meg.*
3.74	19.1	97.6	499	2,550	13.0K	66.5K	340K	1.74 meg.	8.87 meg.
3.83†	19.6†	100†	511†	2,610†	13.3K†	68.1K†	348K†	1.78 meg.†	9.09 meg.†
3.92	20.0	102	523	2,670	13.7K	69.8K	357K	1.82 meg.	9.31 meg.
4.02*	20.5*	105*	536*	2,740*	14.0K*	71.5K*	365K*	1.87 meg.*	9.53 meg.*
4.12	21.0	107	549	2,800	14.3K	73.2K	374K	1.91 meg.	9.76 meg.
4.22†	21.5†	110†	562†	2,870†	14.7K†	75.0K†	383K†	1.96 meg.†	10.0 meg.†
4.32	22.1	113	576	2,940	15.0K	76.8K	392K	2.00 meg.	
4.42*	22.6*	115*	590*	3,010*	15.4K*	78.7K*	402K*	2.05 meg.*	
4.53	23.2	118	604	3,090	15.8K	80.6K	412K	2.10 meg.	
4.64†	23.7†	121†	619†	3,160†	16.2K†	82.5K†	422K†	2.15 meg.†	
4.75	24.3	124	634	3,240	16.5K	84.5K	432K	2.21 meg.	
4.87*	24.9*	127*	649*	3,320*	16.9K*	86.6K*	442K*	2.26 meg.*	
4.99	25.5	130	665	3,400	17.4K	88.7K	453K	2.32 meg.	

EIA STANDARD RESISTANCE VALUES

Tolerances: ±5% available in all values listed; **Bold face figures** are also available in ±10% values.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
2.7	13	**68**	360	**1,800**	9,100	**47,000**	0.24 meg.	**1.2 meg.**	6.2 meg.
3.0	**15**	75	**390**	2,000	**10,000**	51,000	**0.27 meg.**	1.3 meg.	**6.8 meg.**
3.3	16	**82**	430	**2,200**	11,000	**56,000**	0.30 meg.	**1.5 meg.**	7.5 meg.
3.6	**18**	91	**470**	2,400	**12,000**	62,000	**0.33 meg.**	1.6 meg.	**8.2 meg.**
3.9	20	**100**	510	**2,700**	13,000	**68,000**	0.36 meg.	**1.8 meg.**	9.1 meg.
4.3	**22**	110	**560**	3,000	**15,000**	75,000	**0.39 meg.**	2.0 meg.	**10.0 meg.**
4.7	24	**120**	620	**3,300**	16,000	**82,000**	0.43 meg.	**2.2 meg.**	11.0 meg.
5.1	**27**	130	**680**	3,600	**18,000**	91,000	**0.47 meg.**	2.4 meg.	**12.0 meg.**
5.6	30	**150**	750	**3,900**	20,000	**0.1 meg.**	0.51 meg.	**2.7 meg.**	13.0 meg.
6.2	**33**	160	**820**	4,300	**22,000**	0.11 meg.	**0.56 meg.**	3.0 meg.	**15.0 meg.**
6.8	36	**180**	910	**4,700**	24,000	**0.12 meg.**	0.62 meg.	**3.3 meg.**	16.0 meg.
7.5	**39**	200	**1,000**	5,100	**27,000**	0.13 meg.	**0.68 meg.**	3.6 meg.	**18.0 meg.**
8.2	43	**220**	1,100	**5,600**	30,000	**0.15 meg.**	0.75 meg.	**3.9 meg.**	20.0 meg.
9.1	**47**	240	**1,200**	6,200	**33,000**	0.16 meg.	**0.82 meg.**	4.3 meg.	**22.0 meg.**
10	51	**270**	1,300	**6,800**	36,000	**0.18 meg.**	0.91 meg.	**4.7 meg.**	
11	**56**	300	**1,500**	7,500	**39,000**	0.20 meg.	**1.0 meg.**	5.1 meg.	
12	62	**330**	1,600	**8,200**	43,000	**0.22 meg.**	1.1 meg.	**5.6 meg.**	

WIRE-WOUND PRECISION RESISTORS

RH

PH

RS, RLS

WWA

TYPE RH: ALUMINUM HOUSED

For applications with high power and precision tolerance requirements. Choice of six models, 5 through 250 watts. Complete welded construction, terminal to terminal. Thoroughly protected against moisture, salt spray, vibration and shock. Molded construction RH-5 through RH-50, all types have flat marking surface on top of housing for easy identification. Designed to utilize heat-sink effect of chassis. Screw mounts on chassis. Temperature Coefficient: ±20 ppm/° C, ±30 ppm/° C or ±50 ppm/° C depending on resistance value. Exceeds MIL-R-18546. **Suffix** (e.g., RH-50) **indicates wattage rating.**

STANDARD STOCK VALUES ±1%

Dale Type	Overall Size, In. Lg. x W. x H.	Resis. Range, Ohms, ±1%
RH-5†	.600x .334x .320	.1 to 24.5K
RH-10‡	.750x .420x .390	.01 to 47.1K
RH-25	1.062x .550x .546	.01 to 95.2K
RH-50	1.968x .630x .610	.01 to 273K
RH-100*	3.500x1.800x1.730	.1 to 50K
RH-250*	4.500x2.110x2.180	.1 to 75K

*Threaded terminals; all others, tinned Copperweld terminals. Rated at: †7.5 w; ‡12.5 w.

PRICES FOR RH-5 & RH-10

Resistance Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.008-.012	$2.96	$2.67	$2.43	$2.23
.013-.025	2.87	2.57	2.34	2.15
.026-.046	2.85	2.48	2.30	2.11
.047-.099	2.87	2.57	2.34	2.15
.1-.49	2.96	2.67	2.43	2.23
.5-.99	2.85	2.48	2.30	2.11
1-1K	2.20	1.76	1.65	1.54
1.1K-5K	2.31	1.85	1.74	1.62
5.1K-10K	2.52	2.01	1.89	1.76
10.1K-12K	2.76	2.20	2.07	1.93
12.1K-15K	3.00	2.40	2.26	2.11
15.1K-25K	3.22	2.95	2.68	2.40
25.1K-40K	3.58	3.27	2.97	2.67
40.1K-47K	3.93	3.59	3.26	2.98

PRICES FOR RH-25

.010-.015	$3.11	$2.85	$2.60	$2.40
.016-.030	3.08	2.79	2.55	2.35
.031-.050	3.04	2.76	2.51	2.32
.051-.072	3.00	2.71	2.46	2.27
.073-.099	3.04	2.76	2.51	2.32
.1-.49	3.11	2.85	2.60	2.40
.5-.99	3.00	2.71	2.46	2.27
1-1K	2.20	1.76	1.65	1.54
1.1K-5K	2.31	1.85	1.74	1.62
5.1K-10K	2.52	2.01	1.89	1.76
10.1K-12K	2.76	2.20	2.07	1.93
12.1K-15K	3.00	2.40	2.26	2.11
15.1K-25K	3.22	2.95	2.68	2.40
25.1K-40K	3.58	3.27	2.97	2.67
40.1K-50K	3.93	3.59	3.26	2.98
50.1K-60K	4.29	3.91	3.53	3.12
60.1K-75K	4.66	4.25	3.82	3.40
75.1K-95.2K	5.14	4.66	4.20	3.78

PRICES FOR RH-50

.010-.015	$3.32	$3.05	$2.79	$2.60
.016-.035	3.28	3.00	2.76	2.56
.036-.050	3.25	2.95	2.70	2.50
.051-.075	3.20	2.92	2.67	2.48
.076-.099	3.17	2.88	2.64	2.44
.1-.49	3.25	2.95	2.70	2.50
.5-.99	3.20	2.92	2.67	2.48
1-5.9	3.00	2.73	2.42	2.22
6-1K	2.70	2.16	2.02	1.89
1.1K-5K	2.82	2.27	2.13	1.98
5.1K-10K	3.06	2.44	2.29	2.15
10.1K-20K	3.39	2.71	2.54	2.38
20.1K-55K	3.70	2.95	2.76	2.59
55.1K-75K	4.02	3.21	3.00	2.81
75.1K-100K	4.31	3.43	3.25	3.01
100.1K-125K	4.69	3.74	3.51	3.28
125.1K-150K	5.04	4.04	3.78	3.52
150.1K-175K	5.40	4.31	4.04	3.78
175.1K-225K	5.73	4.52	4.33	3.98
225.1K-273K	6.18	4.85	4.68	4.25

PRICES FOR RH-100 & RH-250

.1-.99	$13.55	$11.96	$11.16	$10.36
1-5	12.01	10.60	9.90	9.19
5.1-50	11.75	10.37	9.67	8.98
50.1-1K	10.86	9.58	8.94	8.31
1.1K-10K	11.58	10.23	9.54	8.86
10.1K-20K	12.52	11.06	10.31	9.57
20.1K-35K	13.26	11.70	10.91	10.14
35.1K-55K	13.89	12.28	11.44	10.64
55.1K-75K	14.59	12.87	12.01	11.17

TYPE PH: ALUMINUM HOUSED

Same features as RH types, except mounting is made in hole thru chassis. Finned style housing. Meets functional requirements of MIL-R-18546. **Suffix** (e.g., PH-25) **indicates rating in watts.**

TYPE PH (CONTINUED)

STANDARD STOCK VALUES ±1%

Dale Type	Overall Size, In. Lg. x Dia.	Resis. Range, Ohms, ±1%
PH-10-1*	.750 x .500	.1 to 47.1K
PH-25	1.595 x .875	.1 to 95.2K
PH-50	2.300 x 1.188	.1 to 75K
PH-100	2.970 x 1.750	.1 to 50K

*Tinned Copperweld® terminals; 180 alloy, all others. ®Copperweld Steel Corp. TM.

PRICES FOR PH-10-1

Resistance, Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.1-.99	$4.04	$3.70	$3.36	$3.02
1-1K	2.00	1.60	1.50	1.40
1.1K-5K	2.10	1.68	1.58	1.47
5.1K-10K	2.29	1.83	1.72	1.60
10.1K-12K	2.51	2.01	1.88	1.75
12.1K-15K	2.73	2.18	2.05	1.92
15.1K-25K	2.94	2.68	2.44	2.08
25.1K-40K	3.25	2.97	2.70	2.43
40.1K-47K	3.67	3.26	2.96	2.71

PRICES FOR PH-25

.1-.99	$4.52	$4.15	$3.76	$3.38
1-1K	2.24	1.78	1.67	1.56
1.1K-5K	2.35	1.88	1.77	1.65
5.1K-10K	2.56	2.05	1.93	1.88
10.1K-12K	2.81	2.24	2.10	1.96
12.1K-15K	3.06	2.44	2.30	2.15
15.1K-25K	3.28	3.00	2.74	2.44
25.1K-40K	3.64	3.33	3.03	2.72
40.1K-50K	4.00	3.65	3.32	3.04
50.1K-60K	4.37	3.98	3.60	3.18
60.1K-75K	4.75	4.33	3.89	3.48
75.1K-95.2K	5.23	4.75	4.28	3.86

PRICES FOR PH-50

.1-.99	$12.75	$10.00	$9.26	$8.86
1-5	10.47	8.17	7.58	7.17
5.1-1K	8.35	6.56	6.06	5.72
1.1K-5K	8.78	6.85	6.36	6.01
5.1K-10K	9.19	7.19	6.66	6.29
10.1K-20K	9.75	7.68	7.09	6.70
20.1K-55K	10.18	7.98	7.40	6.99
55.1K-75K	10.64	8.34	7.62	7.31

PRICES FOR PH-100

.1-.99	$13.79	$12.18	$11.37	$10.55
1-5	12.23	10.79	10.08	9.35
5.1-50	11.96	10.56	9.81	9.14
50.1-1K	11.07	9.76	9.11	8.45
1.1K-10K	11.79	10.41	9.71	9.02
10.1K-20K	12.75	11.26	10.49	9.75
20.1K-35K	13.49	11.91	11.11	10.33
35.1K-50K	14.15	12.50	11.65	10.81

TYPE RS: SILICONE COATED (HIGH TEMPERATURE)

Designed to meet precision power requirements where space is at a premium. Outstanding silicone coating protects against moisture and salt spray; also maintains stable performance under other severe environmental conditions. Complete welded construction, from terminal to terminal. Meets or exceeds applicable MIL-R-26C and MIL-R-23379 requirements. Dielectric strength 500 VAC for ½ and ¼-watt types; 1000 VAC, all others. Temperature Coefficient: ±20 ppm/° C, ±30 ppm/° C or ±50 ppm/° C depending on resistance value. **Suffix** (e.g., RS-¼) **indicates rating in watts except as noted.**

STANDARD STOCK VALUES ±1%

Dale Type	Overall Size, In. Lg. x Dia.	Resis. Range, Ohms, ±1%
RS-¼	.250 x .078	1 to 3.4K
RS-½	.312 x .078	1 to 4.9K
RS-1A	.406 x .093	.1 to 10.4K
RS-1B	.531 x .093	.1 to 15K
RS-2*	.625 x .250	.1 to 47.1K
RS-2A	.812 x .188	.1 to 42.1K
RS-2B†	.562 x .188	.1 to 24.5K
RS-2C‡	.500 x .218	.1 to 32.3K
RS-5	.875 x .312	.1 to 95.2K
RS-7	1.218 x .312	.1 to 154K
RS-10	1.781 x .375	.1 to 273K

*4.0 watts. †3.0 watts. ‡2.5 watts.

PRICES FOR RS-¼, -½, -1A & -1B

Resistance Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.1-.49	$2.40	$2.16	$1.91	$1.57
.5-.99	1.85	1.63	1.38	1.16
1.0-1K	1.19	.94	.88	.83
1.1K-4K	1.31	1.05	.98	.91
4.1K-15K	1.50	1.17	1.11	1.02

TYPE RS (CONTINUED)

PRICES FOR RS-2, -2A, -2B, -2C, -5, RS-7 AND RS-10

Resistance Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.1-.49	$2.16	$1.94	$1.73	$1.42
.5-.99	1.66	1.46	1.24	1.05
1.0-1K	.91	.72	.68	.63
1.1K-5K	1.00	.80	.75	.69
5.1K-10K	1.05	.83	.77	.72
10.1K-15K	1.09	.86	.81	.76
15.1K-20K	1.13	.91	.85	.80
20.1K-40K	1.21	.96	.91	.84
40.1K-55K	1.30	1.05	.97	.91
55.1K-75K	1.43	1.13	1.07	1.00
75.1K-100K	1.57	1.25	1.19	1.10
100.1K-125K	1.73	1.42	1.30	1.21
125.1K-150K	1.88	1.50	1.41	1.32
150.1K-175K	2.06	1.64	1.54	1.44
175.1K-225K	2.24	1.80	1.68	1.58
225.1K-273K	2.46	1.98	1.86	1.75

TYPE RLS: RADIAL LEAD

Same as RS Type, but radial leads. Available in 1-10 watt sizes and ranges equivalent to those shown for RS types above. **Prices on Request.**

TYPE WWA: BOBBIN

Epoxy molded for high stability and environmental protection. Completely welded construction. Available with solderable or weldable leads. Series includes subminiature models MWA-8 and MWA-10. Meet or exceed functional requirements of MIL-R-93.

STANDARD STOCK VALUES ±1%

Dale Type	W.	Size, In.* Lg. x Dia.	Resis. Range, Ohms, ±1%
MWA-8	.1	.250 x .078	1 to 100K
MWA-10	.125	.312 x .078	1 to 125K
WWA-13	.125	.375 x .125	1 to 300K
WWA-22	.15	.250 x .250	.1 to 350K

*Overall.

PRICES FOR MWA-8 AND MWA-10

Resistance, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-499
1-1.3K	$1.96	$1.63	$1.30	$0.98
1,301-5K	1.96	1.63	1.30	.98
5,001-10K	2.10	1.67	1.34	1.00
10,001-25K	2.11	1.76	1.41	1.06
25,001-50K	2.38	1.98	1.58	1.19
50,001-75K	2.66	2.22	1.78	1.33
75,001-100K	3.09	2.57	1.95	1.54
100,001-125K	3.43	2.86	2.29	1.72
125,001-150K	3.70	3.08	2.46	1.85
150,001-160K	3.81	3.17	2.53	1.90

PRICES FOR WWA-13

1-1.3K	$1.98	$1.65	$1.32	$0.99
1,301-5K	1.98	1.65	1.32	.99
5,001-10K	2.00	1.67	1.34	1.00
10,001-25K	2.17	1.80	1.44	1.08
25,001-50K	2.30	1.91	1.53	1.14
50,001-75K	2.43	2.02	1.62	1.21
75,001-100K	2.77	2.31	1.85	1.39
100,001-125K	2.90	2.42	1.94	1.45
125,001-150K	3.09	2.57	2.06	1.54
150,001-175K	3.88	3.23	2.59	1.94
175,001-200K	4.15	3.45	2.76	2.07
200,001-250K	4.68	3.89	3.11	2.33
250,001-311K	5.26	4.38	3.50	2.63

PRICES FOR WWA-22

.1-.99	$4.02	$3.34	$2.67	$2.00
1-49.9	3.01	2.51	2.00	1.57
50-5K	2.38	1.98	1.58	1.19
5,001-10K	2.51	2.09	1.67	1.25
10,001-25K	2.64	2.20	1.76	1.32
25,001-50K	2.83	2.35	1.88	1.41
50,001-75K	3.01	2.51	2.00	1.51
75,001-100K	3.11	2.60	1.08	1.56
100,001-125K	3.28	2.73	2.18	1.64
125,001-150K	3.38	2.82	2.26	1.69
150,001-175K	3.54	2.95	2.35	1.77
175,001-200K	3.64	3.04	2.43	1.83
200,001-250K	3.94	3.28	2.62	1.97
250,001-300K	4.16	3.48	2.78	2.09
300,001-400K	4.94	4.07	3.26	2.44
400,001-500K	5.47	4.55	3.64	2.73
500,001-600K	7.60	6.34	5.07	3.81

All resistors listed have a standard tolerance of ±1%. Also available in following tolerances: ±0.05%, ±0.1%, ±0.25%, ±.5%, ±3% and ±5%. Prices on Request. **Additional WWA models available on request.**

FILM AND WIRE-WOUND PRECISION RESISTORS

PRECISION FILM RESISTORS

TYPE MF: MOLDED METAL FILM

Epoxy-molded-metal film resistor designed to meet a variety of military and commercial applications. Combines high stability with low noise and exceptional moisture protection. Features close tracking of controlled temperature coefficient. MF-50 offers precision performance in sub-miniature size. Has solder coated copper leads*. Meets or exceeds MIL-R-10509 (Char. C, D or E depending upon temperature coefficient required). **Temperature Range:** −65° C to +175° C. **Temperature Coefficient:** T-1, ±100 ppm/°C; T-2, ±50 ppm/° C; T-9, ±25 ppm/°C. **Tolerance:** ±1%; also available in ±.1%, ±.25% or ±.5%. **Suffix** (i.e., MF-⅛) **indicates wattage rating; MF-50, 1/20 W.**

STANDARD STOCK VALUES

Dale Type	Size, In. Lg. x Dia.	Maximum WVDC
MF-50	.150 x .065	200
MF-1/10	.260 x .093	200
MF-⅛	.406 x .135	300
MF-¼	.593 x .203	350
MFS-½	.730 x .250	500
MF-1	1.093 x .375	500
MF-2	2.188 x .375	750

PRICES AND STOCK VALUES ±1%

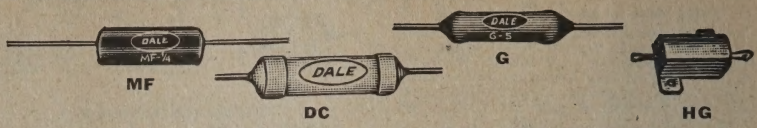
Dale Type	TC Code	Resis. Range, Ohms	Net Each, Lots 1-24	25-99	100-249
MF-50	T-0	24.9–100K	$1.64	$0.59	$0.33
	T-1	49.9–100K	1.64	.59	.33
	T-2	100–100K	2.30	.84	.45
	T-9	100–100K	5.06	1.85	.94
MF-1/10	T-0	10–301K	1.16	.53	.26
	T-1	30.1–301K	1.16	.53	.26
	T-2	30.1–301K	1.58	.73	.35
	T-9	30.1–301K	1.95	1.18	.79
MF-⅛	T-0	10–1 meg	1.16	.53	.26
	T-1	24.9–1 meg	1.16	.53	.26
MFF-⅛	T-2	30.1–499K	1.58	.73	.35
	T-9	30.1–499K	1.95	1.18	.79
MF-¼	T-0	10–2 meg	1.16	.53	.26
	T-1	24.9–2 meg	1.16	.53	.26
MFF-¼	T-2	30.1–1 meg	1.58	.73	.35
	T-9	30.1–1 meg	1.95	1.18	.79
MFS-½	T-0	10–2.49 meg	1.16	.53	.26
	T-1	24.9–2.49 meg	1.16	.53	.26
MFF-½	T-2	24.9–1 meg	1.58	.73	.35
	T-9	24.9–1 meg	1.95	1.18	.79
MF-1	T-0	10–5.11 meg	1.52	.96	.75
	T-1	24.9–4.02 meg	1.52	.96	.75
MFF-1	T-2	49.9–2.61 meg	2.37	1.35	1.03
	T-9	49.9–2.61 meg	4.42	2.55	1.94
MF-2	T-0	30.1–3 meg	2.12	1.24	.86
MFF-2		3.01–6 meg	3.05	2.18	1.79
		6.01–10 meg	4.54	3.66	3.28
	T-1	100–3 meg	2.12	1.24	.86
		3.01–6 meg	3.05	2.18	1.79
		6.01–8 meg	4.54	3.66	3.28
	T-2	100–3 meg	2.54	1.67	1.24
		3.01–8 meg	3.80	2.94	2.49
	T-9	200–3 meg	5.12	3.26	2.46
		3.01–5.11 meg	7.15	5.29	4.50

TYPE DC: COATED CARBON FILM

Miniature-sized resistor designed for inherent stability, long load life and excellent protection against environmental factors. Pure crystalline carbon film bonded to selected ceramic cores. Good high frequency characteristics; low noise. Has solder coated copper leads*. Meets or exceeds MIL-R-10509 (Char. B and X). **Temperature Range:** −55° C to +165° C. **Tolerance:** ±1%; also available in ±.5%, ±2% or ±5%. **Suffix** (i.e., DC-¼) **indicates wattage rating.**

Dale Type (Size†)	Resis. Range, Ohms	Net Each, Lots of 1-24	25-99	100-499
DC-1/10 (.281 x .094)	2–9.99	$1.77	$0.98	$0.66
	10–400K	1.14	.43	.22
DC-⅛ (.343 x .109)	1–9.99	1.30	.58	.30
	10–1 meg	1.18	.54	.27
	1.01 meg–3 meg	1.51	.81	.55
	3.01 meg–4 meg‡	1.51	.81	.55

*For grade A weldable nickel leads, add **4c** per resistor; for .05", gold-flashed dumet leads, add **10c** per resistor. †Lg. x dia. ‡2%.



MF DC G HG

TYPE DC (CONT'D)

Dale Type (Size†)	Resis. Range, Ohms	Net Each, Lots 1-24	25-99	100-499
DC-¼ (.468 x .109)	1–9.99	$1.30	$0.50	$0.25
	10–2 meg	1.18	.54	.27
	2.01 meg–5 meg	1.76	.77	.51
	5.01 meg–6 meg‡	1.76	.77	.51
DCS-½ (.562 x .187)	1–9.99	1.30	.50	.25
	10–2.49 meg	1.18	.54	.27
	2.5 meg–5 meg	1.76	.77	.51
	5.01 meg–10 meg	2.19	1.12	.83
	10.01 meg–15 meg‡	2.19	1.12	.83
DC-1 (.937 x .296)	1–9.99	2.53	1.30	.89
	10–5 meg	1.55	.79	.53
	5.01 meg–10 meg	1.75	.86	.62
	10.01 meg–15 meg	2.88	1.43	.96
	15.01 meg–30 meg‡	2.88	1.43	.96
DC-2 (2.062 x .296)	2–9.99	3.17	1.65	1.14
	10–10 meg	1.95	1.01	.69
	10.01 meg–50 meg	2.27	1.18	.89
	50.01 meg–100 meg	3.39	2.29	1.35
	100.01 meg–125 meg‡	4.24	2.95	2.40
DC-5* (4.0 x .438)	5–9.99	.....	.....	.....
	10–10 meg	.....	.....	.....
	10.01 meg–50 meg	.....	.....	.....
	50.01 meg–100 meg	.....	.....	.....
	100.01 meg–150 meg	.....	.....	.....
	150.01 meg–300 meg‡	.....	.....	.....

*For grade A weldable nickel leads, add **4c** per resistor; for 50 micro-inch, gold-flashed dumet leads, add **10c** per resistor. †Lg. x dia., in. ‡2%. *Consult factory for prices.

PRECISION WIRE-WOUND RESISTORS

TYPE HG: ALUMINUM HOUSED

Precision power wire-wound resistor with beryllium oxide core for exceptional power-to-size ratio and stability. Molded construction with anodic coated, aluminum housing designed to utilize heat-sink effect of chassis for optimum heat dissipation and even heat distribution. Tinned Copperweld* terminals are standard. Screw mounts on chassis. Flat marking surface for easy identification. More than doubles MIL power requirements; exceeds MIL-R-18546 specifications. **Temperature Range:** −55° C to +275° C. **Temperature Coefficient:** ±50 ppm/° C, ±30 ppm/° C or ±20 ppm/° C depending on resistance value. **Tolerance:** ±1%; also available in ±.05%, ±.1%, ±.25%, ±.5% and ±3%.

*Reg. Copperweld TM.

STANDARD STOCK VALUES ±1%

Dale Type	W	Overall Size, In. Lg. x W. x H.	Resis. Range, Ohms, ±1%
HG-5	15	.600 x .334 x .320	.1–24.5K
HG-10	20	.750 x .420 x .390	.1–47.1K
HG-25	35	1.062 x .550 x .546	.1–95.2K
HG-50	50	1.968 x .630 x .610	.1–273K

PRICES FOR HG-5

Resistance, Ohms, ±1%	Net Each, Lots of 1-24	25-49	50-99	100-249
.1–.99	$5.55	$5.10	$4.65	$4.20
1–1K	2.88	2.33	2.19	2.06
1.1K–5K	3.02	2.45	2.31	2.16
5.1K–10K	3.27	2.64	2.49	2.33
10.1K–12K	3.51	2.84	2.67	2.49
12.1K–15K	3.81	3.08	2.90	2.72
15.1K–20K	4.18	3.58	3.36	3.14
20.1K–24.5K	4.51	3.86	3.61	3.39

PRICES FOR HG-10 AND HG-25

Resistance, Ohms, ±1%	Net Each, Lots of 1-24	25-49	50-99	100-249
.1–.99	$6.66	$6.11	$5.55	$5.00
1–1K	3.37	2.68	2.52	2.35
1.1K–5K	3.53	2.83	2.66	2.48
5.1K–10K	3.85	3.07	2.89	2.68
10.1K–12K	4.14	3.31	3.11	2.89
12.1K–15K	4.51	3.61	3.39	3.16
15.1K–25K	4.85	4.42	4.03	3.61
25.1K–40K	5.37	4.90	4.46	4.01
40.1K–50K	5.90	5.38	4.88	4.48
50.1K–60K	6.44	5.86	5.31	4.70
60.1K–75K	6.93	6.30	5.72	5.06
75.1K–95.2K	7.29	6.63	6.02	5.33

PRICES FOR HG-50

.1–.99	$9.95	$9.11	$8.29	$7.47
1–5.9	8.53	6.84	6.39	5.97
6–1K	5.89	4.70	4.41	4.12
1.1K–5K	6.18	4.94	4.65	4.33
5.1K–10K	6.68	5.33	4.99	4.67
10.1K–20K	7.26	5.81	5.44	5.10
20.1K–55K	7.92	6.34	5.91	5.54
55.1K–75K	8.61	6.89	6.44	6.02
75.1K–100K	9.24	7.37	6.94	6.47
100.1K–125K	10.03	8.03	7.52	7.02
125.1K–150K	10.80	8.66	8.10	7.55
150.1K–175K	11.56	9.24	8.69	8.10
175.1K–200K	12.25	9.83	9.18	8.49
200.1K–225K	12.93	10.42	9.66	8.88
225.1K–250K	13.51	11.01	10.53	9.36
250.1K–273K	14.10	11.60	11.02	9.70

TYPE G: SILICONE COATED

With features similar to those of type HG, but with tubular, silicone coated body and welded construction. Meets MIL-R-26 (Char. G and V) and MIL-R-23379 specs.

STANDARD STOCK VALUES ±1%

Dale Type	W	Size, In. Lg. x Dia.	Resis. Range, Ohms, ±1%
G-1	1	.250 x .078	1–3.4
G-2	1.5	.312 x .078	1–4.9
G-3	2.25	.422 x .093	.1–10.4K
G-5	4	.562 x .188	.1–24.5K
G-5A	4.5	.812 x .188	.1–42.1K
G-5C	5	.500 x .218	.1–32.3K
G-6	6	.625 x .250	.1–47.1K
G-10	7	.875 x .312	.1–95.2K
G-12	10	1.218 x .312	.1–154K
G-15	15	1.781 x .375	.1–273K

PRICES FOR G-1, G-2, G-3, G-5

Resistance, Ohms, ±1%	Net Each, Lots of 1-24	25-49	50-99	100-249
.1–.499	$3.46	$2.70	$2.57	$2.37
.500–.99Ω	2.66	2.08	1.98	1.82
1–1K	1.78	1.49	1.39	1.29
1.1K–5K	1.91	1.59	1.49	1.38
5.1K–10K	2.07	1.73	1.61	1.49
10.1K–20K	2.20	1.84	1.71	1.59
20.1K–24.5K	2.34	1.95	1.81	1.68

PRICES FOR G-5A, G-5C, G-6 AND G-10

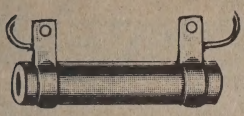
.1–.99	$4.32	$3.60	$3.36	$3.12
1–1K	2.77	2.31	2.16	2.00
1.1K–5K	2.88	2.40	2.24	2.08
5.1K–10K	2.99	2.49	2.32	2.16
10.1K–20K	3.13	2.61	2.44	2.26
20.1K–40K	3.28	2.73	2.55	2.37
40.1K–60K	3.42	2.85	2.66	2.47
60.1K–75K	3.59	2.99	2.79	2.59
75.1K–95.2K	3.74	3.12	2.92	2.71

PRICES FOR G-12 AND G-15

.1–.99	$5.52	$5.16	$4.82	$4.47
1–1K	3.84	3.60	3.36	3.12
1.1K–5K	3.94	3.69	3.44	3.20
5.1K–10K	4.00	3.75	3.50	3.25
10.1K–20K	4.10	3.84	3.58	3.33
20.1K–30K	4.19	3.93	3.67	3.41
30.1K–50K	4.33	4.05	3.78	3.51
50.1K–75K	4.46	4.17	3.89	3.61
75.1K–100K	4.55	4.26	3.98	3.69
100.1K–125K	4.64	4.35	4.06	3.77
125.1K–150K	4.78	4.47	4.17	3.87
150.1K–175K	4.90	4.59	4.28	3.98
175.1K–200K	5.03	4.72	4.40	4.08
200.1K–225K	5.16	4.83	4.51	4.18
225.1K–240K	5.29	4.96	4.62	4.29
240.1K–273K	5.65	5.33	4.98	4.63

Clarostat Vitreous-Enamel Resistors

GREENOHM V™ FIXED POWER RESISTORS



Vitreous enamel, wire-wound power resistors are engineered to meet or exceed MIL-R-26 specifications. Wire windings are finest grade resistance alloy. Designed for utmost reliability and stability under adverse conditions. Teal green enamel finish withstands overheating without peeling or cracking. Tolerance, ±5% except values under 1 ohm, ±10%. VPR types (up to 20 watts) have wire lead and lug terminals, illustrated at left. VP and VK types (25 watts and up) have lug terminals, and mounting bracket. **Core Size:** VPR-5-F, 1″ x 5/16″ dia.; VPR-10-F, 1¾″ x 5/16″ dia.; VPR-20-H, 2″ x 7/16″ dia.; VP-25-K 2″ x 9/16″ dia.; VP-50-K, 4″ x 9/16″ dia.; VK-100-N, 6½″ x ¾″ dia.; VK-160-W, 8½″ x 1⅛″ dia.; VK-200-W, 10½″ x 1⅛″ dia.

STOCK VALUES—WITH WIRE LEAD AND LUG TERMINALS

8-WATT SERIES VPR-5-F

Ohms	Ohms	Ohms	Ohms
1	50	750	4500
1.5	75	800	5000
2	100	900	6000
3	125	1000	7000
4	150	1100	7500
5	200	1200	8000
7.5	225	1250	9000
10	250	1500	10K
12	300	1750	12.5K
15	350	2000	15K
20	400	2250	17.5K
25	450	2500	20K
30	500	3000	22.5K
35	600	3500	25K
40	700	4000	

12-WATT SERIES VPR-10-F

Ohms	Ohms	Ohms	Ohms	Ohms
0.4	30	500	3000	13.5K
1	35	600	3500	14.3K
1.2	40	700	4000	15K
1.3	50	750	4500	16K
1.5	75	800	5000	17.5K
2	100	900	6000	18K
3	125	1000	7000	20K
4	150	1100	7500	22.5K
5	200	1200	8000	25K
7.5	225	1250	8500	30K
10	250	1500	9000	35K
12	300	1750	10K	40K
15	350	2000	11K	45K
20	400	2250	12K	50K
25	450	2500	12.5K	

20-WATT SERIES VPR-20-H

Ohms	Ohms	Ohms	Ohms	Ohms
0.4	350	1850	7500	55K
0.6	400	2000	8000	60K
0.8	500	2250	9000	65K
5	650	2400	10K	70K
10	700	2500	12.5K	75K
25	750	2750	15K	80K
50	800	3000	20K	85K
75	850	3500	25K	90K
100	1000	4000	30K	95K
150	1200	4500	35K	100K
200	1250	5000	40K	
250	1500	6000	45K	
300	1750	7000	50K	

STOCK VALUES—WITH LUG TERMINALS AND MOUNTING BRACKET

25-WATT SERIES VP-25-K

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	800	5000	30K
2	75	1000	6000	35K
3	100	1500	7500	40K
4	150	2000	10K	50K
5	200	2500	12K	60K
10	250	3000	15K	70K
15	500	3500	20K	80K
25	750	4000	25K	100K

50-WATT SERIES VP-50-K

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1000	7500	50K
2	150	1250	8000	75K
3	200	1500	10K	100K
4	250	2000	12K	125K
5	300	2500	15K	150K
10	400	3000	20K	175K
25	500	4000	25K	200K
50	750	5000	30K	225K
75	800	6000	35K	250K

100-WATT SERIES VK-100-N

Ohms	Ohms	Ohms	Ohms	Ohms
1	75	750	7500	60K
2	100	1000	10K	75K
3	125	1500	15K	100K
4	150	2000	20K	200K
5	200	2500	25K	
10	250	3000	30K	
25	300	4000	40K	
50	500	5000	50K	

160-WATT SERIES VK-160-W

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	7500	50K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	3000	30K	
25	500	5000	40K	

200-WATT SERIES VK-200-W

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	7500	40K
2	75	1000	10K	50K
3	100	1500	12K	60K
4	150	2000	15K	75K
5	200	2500	20K	100K
10	250	3000	25K	
25	500	5000	30K	

"GREENOHM V" FIXED RESISTOR PRICES

Series	Range, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-249	250-499	500-999
VPR-5-F 8-Watt	1.0–1000	$0.61	$0.53	$0.43	$0.349	$0.309	$0.287
	1100–5000	.65	.57	.46	.367	.327	.304
	6000–10K	.69	.59	.48	.388	.343	.319
	12.5K–20K	.77	.68	.55	.438	.387	.361
	22.5K–25K	.88	.76	.62	.499	.440	.410
VPR-10-F 12-Watt	0.4	1.08	.95	.75	.612	.541	.504
	1.0–1000	.68	.59	.47	.383	.338	.316
	1100–5000	.73	.63	.51	.408	.361	.336
	6000–10K	.83	.73	.58	.469	.414	.386
	11K–20K	.94	.80	.65	.530	.469	.436
	22.5K–35K	.98	.86	.69	.557	.492	.458
	40K–50K	1.10	.96	.76	.624	.551	.513
VPR-20-H 20-Watt	0.4–0.8	1.12	.98	.78	.635	.562	.524
	5–1000	.77	.67	.53	.433	.383	.356
	1200–5000	.79	.69	.56	.448	.395	.37
	6000–10K	.94	.80	.65	.530	.469	.437
	12.5K–20K	.97	.84	.67	.542	.480	.448
	25K–40K	1.12	.98	.79	.634	.561	.521
	45K–60K	1.30	1.13	.91	.735	.650	.606
	65K–75K	1.36	1.20	.96	.776	.685	.638
	80K–100K	1.45	1.29	1.03	.832	.735	.684
VP-25-K 25-Watt	1.0–1000	.80	.72	.68	.461	.408	.380
	1500–5000	.85	.74	.59	.477	.425	.396
	6000–10K	.97	.84	.67	.543	.481	.448
	12K–20K	1.01	.88	.72	.576	.509	.474
	25K–40K	1.18	1.03	.83	.664	.589	.548
	50K–60K	1.36	1.19	.96	.774	.685	.637
	70K	1.61	1.41	1.11	.909	.805	.749
	80K–100K	1.86	1.62	1.30	1.06	.935	.870
VP-50-K 50-Watt	1.0–1000	1.25	1.09	.87	.711	.627	.583
	1250–5000	1.29	1.12	.89	.728	.644	.601
	6000–10K	1.39	1.21	.97	.785	.694	.648
	12K–20K	1.53	1.33	1.07	.862	.763	.711
	25K–35K	1.77	1.54	1.22	.996	.881	.820
	50K	1.96	1.71	1.35	1.11	.981	.912
	75K	2.22	1.94	1.55	1.25	1.11	1.04
	100K	2.42	2.09	1.68	1.36	1.21	1.12
	125K	2.77	2.17	1.93	1.56	1.40	1.29
	150K	3.10	2.66	2.17	1.76	1.55	1.44
	175K	3.43	2.99	2.41	1.95	1.73	1.56
	200K	3.62	3.15	2.52	2.05	1.82	1.69
	225K–250K	3.86	3.36	2.68	2.19	1.94	1.79
VK-100-N 100-Watt	1.0–1000	1.95	1.69	1.35	1.10	.980	.....
	1500–5000	2.09	1.82	1.45	1.19	1.04	.....
	7500–10K	2.22	1.94	1.55	1.25	1.11	.....
	15K–20K	2.38	2.06	1.65	1.34	1.19	.....
	25K–60K	2.51	2.18	1.74	1.42	1.25	.....
	75K	2.65	2.30	1.84	1.50	1.32	.....
	100K	2.95	2.56	2.06	1.67	1.47	.....
	200K	4.86	4.21	3.37	2.74	2.42	.....
VK-160-W 160-Watt	1.0–1000	3.06	2.66	2.13	1.73	1.54	.....
	1500–5000	3.13	2.71	2.17	1.77	1.56	.....
	7500–10K	3.42	2.98	2.39	1.94	1.71	.....
	15K–20K	3.71	3.22	2.57	2.09	1.85	.....
	25K–60K	3.89	3.39	2.71	2.20	1.95	.....
	75K	4.04	3.51	2.77	2.29	2.02	.....
	100K	4.18	3.63	2.90	2.37	2.09	.....
VK-200-W 200-Watt	1.0–1000	3.45	2.90	2.32	1.89	1.67	.....
	1500–5000	3.40	2.95	2.37	1.93	1.69	.....
	7500–10K	3.55	3.10	2.49	2.01	1.78	.....
	12K–20K	3.70	3.22	2.57	2.09	1.85	.....
	25K–60K	3.84	3.34	2.67	2.17	1.93	.....
	75K	4.04	3.51	2.81	2.29	2.02	.....
	100K	4.26	3.71	2.97	2.41	2.13	.....

Clarostat Vitreous-Enamel Resistors

GREENOHM V™ ADJUSTABLE POWER RESISTORS

STOCK VALUES

12-WATT SERIES VP-10-FA

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	500	2500	8000
2	75	600	3000	8500
3	100	750	3500	9000
5	150	800	4000	10K
7.5	200	1000	4500	
10	250	1250	5000	
15	300	1500	6000	
20	350	2000	7000	
25	400	2250	7500	

25-WATT SERIES VP-25-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	3500	9000
2	75	800	4000	10K
3	100	1000	4500	12K
5	150	1250	5000	15K
7.5	200	1500	6000	20K
10	250	2000	7000	25K
15	300	2250	7200	
20	400	2500	7500	
25	500	3000	8000	

50-WATT SERIES VP-50-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1250	6000	25K
2	150	1500	7000	30K
3	200	2000	7200	35K
4	250	2250	7500	40K
5	300	2500	8000	50K
10	400	3000	9000	60K
20	500	3500	10K	75K
25	750	4000	12K	80K
50	800	4500	15K	100K
75	1000	5000	20K	

75-WATT SERIES VP-75-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	200	2000	7200	35K
2	250	2250	7500	40K
3	300	2500	8000	45K
4	400	3000	9000	50K
5	500	3500	10K	60K
10	750	4000	12K	80K
15	800	4500	15K	100K
25	1000	5000	20K	
50	1250	6000	25K	
100	1500	7000	30K	

100-WATT SERIES VK-100-NA

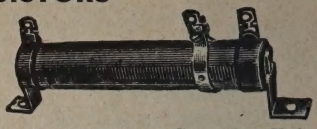
Ohms	Ohms	Ohms	Ohms	Ohms
1	25	400	3500	40K
2	50	500	5000	50K
3	100	750	10K	75K
4	150	1000	15K	100K
5	200	1500	20K	
10	250	2000	25K	
15	300	2500	30K	

160-WATT SERIES VK-160-WA

Ohms	Ohms	Ohms	Ohms	Ohms
1	10	250	5000	30K
2	25	500	10K	40K
3	50	1000	15K	50K
4	100	1500	20K	75K
5	150	2500	25K	100K

200-WATT SERIES VK-200-WA

Ohms	Ohms	Ohms	Ohms	Ohms
1	20	200	2500	30K
2	25	250	5000	40K
3	50	300	10K	50K
4	75	500	15K	75K
5	100	1000	20K	100K
10	150	1500	25K	



Same construction as Greenohm V fixed resistors. Tolerance, ±10%. **Core Size:** VP-10-FA, 1¾″ x 5/16″ dia.; VP-25-KA, 2″ x 5/16″ dia.; VP-50-KA, 4″ x 5/16″ dia.; VP-75-KA, 6″ x 5/16″ dia.; VK-100-NA, 6½″ x ¾″ dia.; VK-160-WA, 8½″ x 1⅛″ dia.; VK-200-WA, 10½″ x 1⅛″ dia.

ADJUSTABLE POWER RESISTOR PRICES

Series	Range, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-249	250-499	500-999
VP-10-FA 12-Watt	1.0–1000	$0.88	$0.80	$0.69	$0.606	$0.569	$0.546
	1250–5000	.94	.84	.73	.629	.581	.557
	6000–10K	1.03	.94	.79	.690	.641	.605
VP-25-KA 25-Watt	1.0–1000	.99	.89	.75	.642	.590	.561
	1250–5000	1.03	.92	.77	.662	.606	.578
	6000–10K	1.16	1.01	.85	.725	.662	.629
	12K–20K	1.20	1.07	.89	.758	.691	.656
	25K	1.35	1.21	1.00	.846	.770	.729
VP-50-KA 50-Watt	1.0–1000	1.50	1.33	1.11	.953	.869	.825
	1250–5000	1.53	1.36	1.13	.970	.886	.843
	6000–10K	1.64	1.45	1.21	1.027	.936	.890
	12K–20K	1.77	1.57	1.31	1.10	1.01	.954
	25K–40K	2.01	1.72	1.46	1.23	1.12	1.06
	50K–60K	2.20	1.95	1.60	1.35	1.22	1.16
	75K–80K	2.46	2.18	1.79	1.50	1.35	1.29
	100K	2.68	2.33	1.93	1.61	1.45	1.36
VP-75-KA 75-Watt	1.0–1000	2.12	1.88	1.56	1.33	1.21	.....
	1250–5000	2.17	1.93	1.60	1.35	1.23	.....
	6000–10K	2.22	1.97	1.64	1.40	1.25	.....
	12K–20K	2.28	2.02	1.68	1.42	1.30	.....
	25K–60K	2.53	2.24	1.85	1.56	1.42	.....
	80K–100K	2.87	2.53	2.08	1.76	1.58	.....
VK-100-NA 100-Watt	1.0–1000	2.31	2.06	1.72	1.46	1.34	.....
	1500–5000	2.45	2.18	1.82	1.55	1.41	.....
	10K	2.59	2.30	1.91	1.62	1.47	.....
	15K–20K	2.74	2.42	2.01	1.71	1.55	.....
	25K–50K	2.87	2.54	2.10	1.78	1.62	.....
	75K	3.01	2.66	2.20	1.86	1.68	.....
	100K	3.31	2.93	2.42	2.04	1.84	.....
VK-160-WA 160-Watt	1.0–1000	3.49	3.09	2.55	2.16	1.96	.....
	1500–5000	3.54	3.14	2.59	2.19	1.98	.....
	10K	3.85	3.40	2.81	2.37	2.13	.....
	15K–20K	4.13	3.70	3.00	2.52	2.28	.....
	25K–50K	4.32	3.82	3.12	2.63	2.38	.....
	75K	4.47	3.94	3.23	2.71	2.44	.....
	100K	4.66	4.06	3.33	2.78	2.52	.....
VK-200-WA 200-Watt	1.0–1000	3.95	3.51	2.88	2.50	2.28	.....
	1500–5000	4.00	3.55	2.97	2.53	2.30	.....
	10K	4.16	3.71	3.09	2.62	2.39	.....
	15K–20K	4.30	3.83	3.18	2.70	2.45	.....
	25K–50K	4.44	3.95	3.28	2.77	2.53	.....
	75K	4.64	4.11	3.41	2.89	2.63	.....
	100K	4.86	4.31	3.52	3.01	2.74	.....

AXIAL LEAD VITREOUS RESISTORS

Ideal for printed circuit, terminal board, and point-to-point wiring applications. Space-saving design, due to elimination of mounting brackets and terminal lugs. Standard resistance tolerance, ±5%. Designed for critical applications, providing high stability and reliability under widely variable environmental conditions. Finished in vitreous shade of teal green. Available in three sizes: 3, 5 or 10 watts. **Size:** VC3D, ¼″ dia. x ½″ long; VC5E, ⅜″ dia. x 1″ long; VC10F, 7/16″ dia. x 1⅞″ long. Leads 1½″ long, .032″ dia.

STOCK VALUES

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	470	2500	12K*
1.5	56	500	2700	12.5K
2	68	560	3000	13.5K*
3	75	600	3300	15K
4	82	680	3500	16K*
5	100	700	3900	17.5K
7.5	120	750	4000	18K
10	125	800	4500	20K
12	150	820	4700	22K
15	180	900	5000	22.5K
18	200	1000	5600	25K
20	220	1100	6000	27K*
22	225	1200	6800	30K*
25	250	1250	7000	33K*
27	270	1300*	7500	35K*
30	300	1500	8000	39K*
33	330	1750	8200	40K*
35	350	1800	8500*	45K*
39	390	2000	9000	47K*
40	400	2200	10K	50K*
47	450	2250	11K*	

*Available in 10-watt series VC10F only.

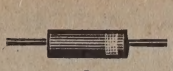
PRICES

When ordering, specify resistance value desired from stock values shown at left.

Series	Range, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-249	250-499	500-999
VC3D 3-Watt	1.0–100	$0.65	$0.56	$0.45	$0.363	$0.321	$0.298
	120–2500	.59	.52	.41	.333	.296	.276
	2700–5000	.68	.58	.47	.377	.333	.310
	5600–7500	.73	.63	.50	.411	.359	.334
	8000–10K	.85	.74	.59	.480	.425	.394
VC5E 5-Watt	1.0–1000	.65	.56	.44	.363	.321	.298
	1100–5000	.68	.58	.47	.377	.333	.310
	5600–10K	.73	.63	.50	.411	.359	.334
	12.5K–15K	.84	.68	.53	.440	.386	.359
	17.5K–20K	.88	.76	.61	.495	.437	.407
	22K–25K	1.17	1.00	.80	.655	.579	.539
VC10F 10-Watt	1.0–1000	.70	.61	.48	.399	.348	.323
	1100–5000	.77	.68	.53	.440	.386	.360
	5600–10K	.85	.74	.59	.481	.44	.396
	11K–20K	.97	.84	.68	.549	.485	.452
	22K–40K	1.09	.96	.76	.617	.547	.508
	45K–50K	1.29	1.11	.89	.726	.649	.597

CORNING® Resistors

Body Configuration: Conformal coating is tightly controlled to extend over the shoulder of the cap only—not down to the leads (Meniscus control). Prices apply to standard values only.



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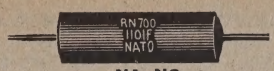


NA, NC

FP

METAL FILM RESISTORS

TYPE C LOW MULTI-WATTAGE TYPES

TC: ±100 ppm/° C from −55° C to +175° C. At ΔR Max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.10%.

Corning Style	MIL Type	MIL Spec. MIL-R-	Wattage at T_A 70° C	125° C	Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999	1000-4999	5000 Up	10,000 Up
C3	.....	22684	1/8	.....	200	.062 x .145	1%	10–150K	$1.25	$0.74	$0.43	$0.33	$0.24	.....	.....	.....
			1/10	1/20			2%	10–150K	.64	.50	.32	.187	.156	$0.145	.....	.....
							5%	10–150K	.37	.25	.17	.14	.107	.102	.....	.....
							10%	10–150K	.34	.23	.155	.11	.088	.085	.....	.....
C4	RL07S	22684	1/4	1/8*	250	.090 x .225	1%	10–301K	.72	.60	.25	.15	.125	.098	$0.084	.....
			1/8	1/10			2%	10–301K	.38	.30	.20	.125	.10	.089	.079	.....
							5%	10–301K	.36	.28	.18	.115	.089	.078	.068	.....
C5	RL20S	22684	1/2	1/4*	350	.148 x .355	1%	10–1 meg	.72	.60	.25	.15	.125	.098	.084	.....
			1/4	1/8			2%	10–1 meg	.38	.30	.20	.125	.10	.089	.079	.....
							5%	10–1 meg	.36	.28	.18	.115	.089	.078	.068	.....

*Commercial rating. †1000 Up.

1 AND 2 WATT GENERAL PURPOSE TYPES

TC: ±200 ppm/° C from −55° C to +150° C. At ΔR Max.: Moisture resistance, ±1.5% (2% for C42S); temp. cycle, short time overload, low temp. operation, shock and vibration, ±0.5%.

FP32	RL32S	22684	1	.....	500	.190 x .562	2%	51–470K	$0.35	$0.30	$0.24	$0.15	$0.102	.....	.....	.....
							5%	51–470K	.30	.25	.21	.13	.079	.....	.....	.....
FP42	RL42S	22684	2	.....	500	.315 x .687		10–1.5 megs	.440	.399	.366	.26	.171	.....	.....	.....
								10–1.5 megs	.36	.31	.28	.19	.138	.....	.....	.....

*1000 Up.

TYPE NA PRECISION TYPES

TC: ±100 ppm/° C from −55° C to +175° C. At ΔR Max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.10%.

Corning Style	MIL Type	MIL Spec. MIL-R-	Wattage at T_A 70°C	125°C	Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range Ohms	Net Each, Lots of 1-24	25-99	100-249	250-999	1000-9999	10,000 Up
NA55	RN55D	10509	1/8	1/10	200	.090 x .225	1%	10–301K	$0.94	$0.44	$0.21	$0.14	$0.11	$0.088
			1/4*	1/8*			0.5%	49.9–150K	1.14	.59	.31	.24	.18	.158
NA60	RN60D	10509	1/4	1/8	300	.148 x .355	1%	10–1 meg	.94	.44	.21	.14	.11	.088
			1/2*	1/4*			0.5%	49.9–499K	1.14	.59	.31	.24	.18	.158
NA65	RN65D	10509	1/2	1/4	350	.190 x .554	1%	10–2 meg	.94	.44	.21	.14	.11	.088
							0.5%	49.9–1 meg	1.14	.59	.31	.24	.18	.158
NA70	RN70D	10509	3/4	1/2	500	.248 x .719	1%	51.1–1 meg	1.00	.55	.24	.19	.15	.12
							0.5%	51.1–1 meg	1.20	.70	.34	.29	.22	.19

*Commercial rating.

TYPE NC PRECISION TYPES

TC: ±50 ppm/° C from −55° C to +175° C. At ΔR Max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.10%.

Corning Style	MIL Type	MIL Spec. MIL-R	Wattage at T_A 70° C	125° C	Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range Ohms	Net Each, Lots of 1-24	25-99	100-249	250-499	500-999	1000 Up	10,000 Up
NC3	RN50C	10509	1/10	1/20	200	.062 x .145	1%	49 9–100K	$2.05	$0.80	$0.45	$0.42	$0.32	$0.30	.....
NC55	RN55C	10509	1/4	1/10	200	.088 x .245	1%*†	49 9–499K	1.04	.48	.23	.155	.12	.10	.....
								500K–1 meg	1.46	.67	.32	.22	.17	.14	.....
NC60	RN60C	10509	1/2	1/8	250	.135 x .375	1%*†	49 9–1 meg	1.04	.48	.23	.155	.12	.10	.....
NC65	RN65C	10509	1	1/4	300	.185 x .575	1%*†	49 9–1 meg	1.35	.62	.30	.205	.14	.12	.....
NC6	RN65C	10509	1/2	1/4	300	.190 x .554	1%*	49.9–1 meg	1.35	.62	.30	.205	.14	.12	.....
NC7	RN70C	10509	3/4	1/2	350	.248 x .719	1%*	51.1–1 meg	1.72	.78	.39	.23	.195	.19	.....

*For 0.5% tolerance, add 9¢ to resale. †For 0.25% tolerance, add 18¢ to resale; for 0.1% tolerance, add 27¢ to resale.

TYPE NE PRECISION TYPES

TC: ±25ppm/°C from −55° C to +150° C. At ΔR max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.1%.

NE55	RN55E	10509	1/4	1/10	200	.088 x .245	1%*	49.9–499K	$1.65	$0.98	$0.65	$0.44	$0.31	.....	.....
								500K–1 meg	2.31	1.37	.91	.56	.39	.....	.....
NE60	RN60E	10509	1/2	1/8	250	.135 x .375	1%*	49.9–1 meg	1.65	.98	.65	.44	.31	.....	.....
NE65	RN65E	10509	1	1/4	300	.185 x .575	1%*	49.9–1 meg	2.45	1.49	1.00	.59	.42	.....	.....

*For 0.5% tolerance, add 9¢ to price; for 0.25% tolerance, add 18¢ to price; for 0.1% tolerance, add 27¢ to price.

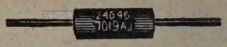
Our Stocks are Complete and up-to-date.

Write for information on new or unlisted items.

CORNING® Resistors

CORNING® ESTABLISHED RELIABILITY RESISTORS

Designed for the many military applications where both established reliability and value are critical. **MIL-R-39017** semi-precision fixed film; this specification supersedes MIL-R-22684. **MIL-R-55182** precision fixed film; this specification supersedes MIL-R-10509. Prices apply to standard values only.



GENERAL ESTABLISHED RELIABILITY INFORMATION

MIL-R-39017

Semi-Precision, Fixed Film, Established Reliability Specification. This specification supersedes MIL-R-22684.

FAILURE RATES

M—1%/1000 hours at 60% confidence
P —.1%/1000 hours at 60% confidence
R —.01%/1000 hours at 60% confidence
S —.001%/1000 hours at 60% confidence

DESIGNATION

RL	R	07	C	103	G	M
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ

Ⓐ **RL**—Style, Semi-Precision, Fixed Film Resistor

Ⓑ **R**—Established Reliability—RLR MIL-R-39017 Semi-Precision Specification

Ⓒ **07**—Case Size
05—⅛ W, 70° C
07—¼ W, 70° C
20—½ W, 70° C
32—1 W, 70° C
42—2 W, 70° C

Ⓓ **C**—Lead Material
Type C oxygen free, high conductivity copper leads per MIL-STD-1276.

Ⓔ **103**—Value
2 Significant Figure Decade Table

Ⓕ **G**—Tolerance
G (±2%) and J (±5%) are available

Ⓖ **M**—Failure Rate

MIL-R-55182

Precision Fixed Film Established Reliability Specification. This specification supersedes MIL-R-10509.

FAILURE RATES

M—1%/1000 hours at 60% confidence
P —.1%/1000 hours at 60% confidence
R—.01%/1000 hours at 60% confidence
S —.001%/1000 hours at 60% confidence

DESIGNATION

RN	C	55	H	1001	F	M
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ

Ⓐ **RN**—Style, Precision Fixed Film Resistors

Ⓑ **C**—a. Established Reliability—RNC, MIL-R-55182 Precision Fixed Film Established Reliability.
b. Lead Material—Oxygen free high conductivity Type C Copper per MIL-STD-1276

Ⓒ **55**—Case Size
50—1/20 W, 125° C
55—1/10 W, 125° C
60—⅛ W, 125° C
65—¼ W, 125° C
70—½ W, 125° C

Ⓓ **H**—Temperature Coefficient
H—50 PPM
J —25 PPM
K—100 PPM

Ⓔ **1001**—Value
3 Significant Figure Decade Table

Ⓕ **F**—Tolerance, 1%

Ⓖ **M**—Failure Rate

SEMI-PRECISION MIL-R-39017

TC: 100 ppm/° C. At ΔR Max.: Temp. cycle and low temp. operation, ±0.25%; shock and vibration, ±0.10% (HC3, ±0.25%); short time overload, ±0.25% (HC3, ±0.50%); moisture, ±0.50%. Load Life: Qualification ΔR/2000 hrs., ±2%; failure rate ΔR/10,000 hrs., ±4%. Prices given are for **R** level 0.1%/1000 hrs., except HC6 **M** level 1%/1000 hrs.

Corning Style	MIL Type	Wattage Rating at 70° C	Max. Voltage	Size, Inch Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of 25-49	50-99	100-249	250-499	500-999	1000-4999	5000-9999	10,000 Up
HC3	RLR05C	⅛	200	.062 x .145	2%	10–150K	$0.87	$0.72	$0.60	$0.43	$0.37	$0.34	.....	.....
					5%	10–150K	.71	.61	.51	.37	.32	.39	.....	.....
HC4	RLR07C	¼	250	.090 x .225	2%	10–150K	.43	.35	.205	.205	.165	.15	$0.14	.....
					5%	10–150K	.41	.33	.195	.195	.155	.14	.135	.....
HC5	RLR20C	½	350	.148 x .355	2%	10–1 meg	.43	.35	.205	.205	.165	.15	.14	.....
					5%	10–1 meg	.41	.33	.175	.175	.165	.14	.135	.....
HC6	RLR32C	1	500	.190 x .554	2%	10–1 meg	.71	.63	.35	.35	.285	.24	.....	.....
					5%	10–1 meg	.65	.55	.305	.305	.285	.21	.....	.....

PRECISION MIL-R-55182

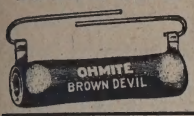
TC: 50 ppm/° C HH Series; 100 ppm/° C, HK Series. MIL-R-55182 parts receive a 100% overload and temperature cycle: Overload, 5 x rated wattage for 1 hour at 25° C; reject parts with combined ΔR > ±0.20%. At ΔR Max.: Shock and vibration, ±0.10%; moisture, ±0.4%. Load Life: Qualification R/2000 hrs. ±0.5%; R/10,000 hrs. ±2%. RN**C** copper lead material; direct one-way substitute for RN**R** lead type provided all other characteristics are equal or better. Tolerance of ±0.5% available; prices on request. MIL-R-55182 supersedes MIL-R-10509.

Corning Style	MIL Type	Failure Rate Level	Wattage Rating at 125° C	Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of 1-24	25-99	100-249	250-999	1000-Up
HH4	RN**C**55H	R*	1/10	200	.090 x .225	1%	49.9–100K	$2.45	$1.36	$0.87	$0.78	$0.66
HK4	RN**C**55K	M	1/10	200	.090 x .225	1%	49.9–100K	2.20	1.19	.83	.77	.62
HH5	RN**C**60H	R*	⅛	250	.148 x .355	1%	49.9–499K	2.20	1.16	.82	.73	.61
HK5	RN**C**60K	M	⅛	250	.148 x .355	1%	49.9–499K	1.94	1.10	.76	.71	.57

*Per MIL-R-55182 **R** level rate is substitutable for **P** and **M** level.

OHMITE® Fixed Resistors

BROWN DEVIL® FIXED RESISTORS—TYPE 200



Wire-wound, vitreous enameled resistors, durable and rugged. **Resistance Tolerance:** For values 1 ohm and higher, ±5%; for 0.5 ohm, ±10%. Tinned leads 1½" lg.; 3 and 5¼ W, 20 AWG; 8, 12 and 20 W, 18 AWG.

3-Watt Size				5¼-Watt Size			
Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1.0	2712	150	2764	1.0	2822	150	2874
1.1	2713	160	2765	1.1	2823	160	2875
1.2	2714	180	2766	1.2	2824	180	2876
1.3	2715	200	2767	1.3	2825	200	2877
1.5	2716	220	2768	1.5	2826	220	2878
1.6	2717	240	2769	1.6	2827	240	2879
1.8	2718	270	2770	1.8	2828	270	2880
2.0	2719	300	2771	2.0	2829	300	2881
2.2	2720	330	2772	2.2	2830	330	2882
2.4	2721	360	2773	2.4	2831	360	2883
2.7	2722	390	2774	2.7	2832	390	2884
3.0	2723	430	2775	3.0	2833	430	2885
3.3	2724	470	2776	3.3	2834	470	2886
3.6	2725	510	2777	3.6	2835	510	2887
3.9	2726	560	2778	3.9	2836	560	2888
4.3	2727	620	2779	4.3	2837	620	2889
4.7	2728	680	2780	4.7	2838	680	2890
5.1	2729	750	2781	5.1	2839	750	2891
5.6	2730	820	2782	5.6	2840	820	2892
6.2	2731	910	2783	6.2	2841	910	2893
6.8	2732	1000	2784	6.8	2842	1000	2894
7.5	2733	1100	2785	7.5	2843	1100	2895
8.2	2734	1200	2786	8.2	2844	1200	2896
9.1	2735	1300	2787	9.1	2845	1300	2897
10	2736	1500	2788	10	2846	1500	2898
11	2737	1600	2789	11	2847	1600	2899
12	2738	1800	2790	12	2848	1800	2900
13	2739	2000	2791	13	2849	2000	2901
15	2740	2200	2792	15	2850	2200	2902
16	2741	2400	2793	16	2851	2400	2903
18	2742	2700	2794	18	2852	2700	2904
20	2743	3000	2795	20	2853	3000	2905
22	2744	3300	2796	22	2854	3300	2906
24	2745	3600	2797	24	2855	3600	2907
27	2746	3900	2798	27	2856	3900	2908
30	2747	4300	2799	30	2857	4300	2909
33	2748	4700	2800	33	2858	4700	2910
36	2749	5100	2801	36	2859	5100	2911
39	2750	5600	2802	39	2860	5600	2912
43	2751	6200	2803	43	2861	6200	2913
47	2752	6800	2804	47	2862	6800	2914
51	2753	7500	2805	51	2863	7500	2915
56	2754	8200	2806	56	2864	8200	2916
62	2755	9100	2807	62	2865	9100	2917
68	2756	10K	2808	68	2866	10K	2918
75	2757			75	2867	11K	2919
82	2758			82	2868	12K	2920
91	2759			91	2869	13K	2921
100	2760			100	2870	15K	2922
110	2761			110	2871	16K	2923
120	2762			120	2872	18K	2924
130	2763			130	2873	20K	2925

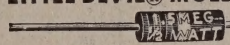
	Stock Number				Stock Number		
Ohms	8 Watts	12 Watts	20 Watts	Ohms	8 Watts	12 Watts	20 Watts
0.5	.....	1700A	1800A	2250	1539	1743	1828
1.0	1500	1701	1802A	2500	1540	1744	1830
1.5	1500B	1704	.....	2750	.....	.....	1831
2.0	1501	1705	1802B	3000	1541	1745	1832
3.0	1502	1706	1802C	3500	1542	1746	1833
4.0	1503	1707	1802D	4000	1543	1747	1834
5.0	1504	1708	1803	4500	1544	1748	1835
7.5	1505	1709	.....	5000	1545	1749	1836
10	1506	1710	1804	6000	1546	1750	1837
12	1507	1711	.....	7000	1547	1751	1838
15	1508	1712	.....	7500	1548	1752	1839
20	1509	1713	.....	8000	1549	1753	1840
25	1510	1714	1805	8500	.....	1754	.....
30	1511	1715	.....	9000	1550	1754A	1840A
35	1512	1716	.....	10K	1551	1755	1841
40	1513	1717	.....	11K	.....	1756	.....
50	1514	1718	1806	12K	.....	1757	.....
75	1515	1719	1807	12.5K	1552	1758	1842
100	1516	1720	1808	13.5K	.....	1759	.....
125	1517	1721	.....	15K	1553	1761	1843
150	1518	1722	1809	16K	.....	1762	.....
200	1519	1723	1810	17.5K	1554	1763	.....
225	1520	1724	.....	18K	.....	1764	.....
250	1521	1725	1811	20K	1555	1765	1844
300	1522	1726	1812	22.5K	1556	1766	.....
350	1523	1727	1813	25K	1557	1767	1845
400	1524	1728	1814	30K	.....	1768	1846
450	1525	1729	.....	35K	.....	1769	1847
500	1526	1730	1815	40K	.....	1770	1848
600	1527	1731	.....	45K	.....	1771	1849
650	.....	.....	1816	50K	.....	1772	1850
700	1528	1732	1817	55K	.....	.....	1851
750	1529	1733	1818	60K	.....	.....	1852
800	1530	1734	1819	65K	.....	.....	1853
900	1531	1735	1820A	70K	.....	.....	1854
1000	1532	1736	1821	75K	.....	.....	1855
1100	1533	1737	.....	80K	.....	.....	1856
1200	1534	1738	1822	85K	.....	.....	1857
1250	1535	1739	1823	90K	.....	.....	1858
1500	1536	1740	1824	95K	.....	.....	1859
1750	1537	1741	1825	100K	.....	.....	1860
2000	1538	1742	1827				

3-Watt Brown Devils

Values, Ohms*	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499	500 Up
1.0–9.1	$0.84	$0.71	$0.59	$0.50	$0.42	$0.38
10–1K	.72	.61	.50	.43	.36	.32
1.1K–4.7K	.81	.69	.57	.49	.41	.36
5.1K–10K	.84	.71	.59	.50	.42	.38
5¼-Watt Brown Devils						
1.0–9.1	$0.86	$0.73	$0.60	$0.52	$0.43	$0.39
10–1K	.75	.64	.53	.45	.38	.34
1.1K–4.7K	.84	.71	.59	.50	.42	.38
5.1K–10K	.86	.73	.60	.52	.43	.39
11K–20K	.95	.81	.67	.57	.48	.43
8-Watt Brown Devils						
1.0–7.5	$0.92	$0.78	$0.64	$0.55	$0.46	$0.41
10K–1K	.81	.69	.57	.49	.41	.36
1.1K–5K	.86	.73	.60	.52	.43	.39
6K–10K	.97	.83	.68	.58	.49	.44
12.5K–20K	1.20	1.02	.84	.72	.60	.54
22.5K, 25K	1.25	1.06	.88	.75	.63	.56
12-Watt Brown Devils						
0.5–7.5	$1.20	$1.02	$0.84	$0.72	$0.60	$0.54
10–1K	.84	.71	.59	.50	.42	.38
1.1K–5K	.89	.76	.62	.53	.45	.40
6K–10K	1.20	1.02	.84	.72	.60	.54
11K–20K	1.20	1.02	.84	.72	.60	.54
22.5K–40K	1.25	1.06	.88	.75	.63	.56
45K, 50K	1.36	1.16	.95	.82	.68	.61
20-Watt Brown Devils						
0.5–5.0	$1.36	$1.16	$0.95	$0.82	$0.68	$0.61
10–1K	.97	.83	.68	.58	.49	.44
1.2K–5K	1.00	.85	.70	.60	.50	.45
6K–20K	1.31	1.11	.92	.79	.66	.59
25K–40K	1.42	1.21	.99	.85	.71	.64
45K–60K	1.64	1.39	1.15	.98	.82	.74
65K–80K	1.95	1.66	1.37	1.17	.98	.88
85K–100K	2.25	1.91	1.58	1.35	1.13	1.01

*Restricted to values shown in table of stock numbers. Prices are for each unit ordered, **not** assortments.

LITTLE DEVIL® MOLDED COMPOSITION RESISTORS



Can be used at full wattage ratings at 70° C (158° F) ambient temp. Feature rapid heat dissipation, low noise evel and low voltage coefficient. The ¼, ½, 1 and 2 W sizes conform respectively to styles RC07, RC20, RC32 and RC42 of MIL-R-11. Also available per MIL-R-39008 for ¼, ½ and 1 W, ±5% tolerance. Max. continuous rms voltage drop 150 V for ⅛ watt; 250 volts for ¼-watt; 350 V for ½-watt; 500 V for 1-watt; 750 V for 2-watt units. **Size:** .145" l. x .062" dia., ⅛ watt; ¼" l. x .090" dia., ¼ watt; ⅜" l. x ⅛" dia., ½ watt; 9/16" l. x 7/32" dia., 1 watt; 11/16" l. x 5/16" dia., 2 watts.

STOCK RESISTORS

All values available ±5% tol.; **bold types** are ±10% EIA.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
1.0	**6.8**	**47**	**330**	**2200**	**15000**	**0.1**	**0.68**	**4.7**
1.1	7.5	51	360	2400	16000	0.11	0.75	5.1
1.2	**8.2**	**56**	**390**	**2700**	**18000**	**0.12**	**0.82**	**5.6**
1.3	9.1	62	430	3000	20000	0.13	0.91	6.2
1.5	**10**	**68**	**470**	**3300**	**22000**	**0.15**	**1.0**	**6.8**
1.6	11	75	510	3600	24000	0.16	1.1	7.5
1.8	**12**	**82**	**560**	**3900**	**27000**	**0.18**	**1.2**	**8.2**
2.0	13	91	620	4300	30000	0.20	1.3	9.1
2.2	**15**	**100**	**680**	**4700**	**33000**	**0.22**	**1.5**	**10.0**
2.4	16	110	750	5100	36000	0.24	1.6	11.0
2.7	**18**	**120**	**820**	**5600**	**39000**	**0.27**	**1.8**	**12.0**
3.0	20	130	910	6200	43000	0.30	2.0	13.0
3.3	**22**	**150**	**1000**	**6800**	**47000**	**0.33**	**2.2**	**15.0**
3.6	24	160	1100	7500	51000	0.36	2.4	16.0
3.9	**27**	**180**	**1200**	**8200**	**56000**	**0.39**	**2.7**	**18.0**
4.3	30	200	1300	9100	62000	0.43	3.0	20.0
4.7	**33**	**220**	**1500**	**10000**	**68000**	**0.47**	**3.3**	**22.0**
5.1	36	240	1600	11000	75000	0.51	3.6	
5.6	**39**	**270**	**1800**	**12000**	**82000**	**0.56**	**3.9**	
6.2	43	300	2000	13000	91000	0.62	4.3	

SPECIFICATIONS AND PRICING

Prices apply to a quantity of one resistance value, one wattage, one tolerance. "Tally Tape"® packaging—each perforated segment holds 5 resistors.

TOLERANCE ±5%

W	Resistance Range, Ohms	Net Each, Lots of 1-9	10-99	100-249	250-499	500-999	1000-4999	5000 Up
⅛	2.7–9.1	$0.41	$0.192	$0.182	$0.175	$0.170	$0.164	$0.158
	10–22 meg	.37	.171	.163	.157	.152	.147	.143
¼	2.7–9.1	.32	.122	.112	.102	.092	.081	.07
	10–1 meg	.26	.10	.07	.063	.053	.037	.032
	1.1–22 meg	.31	.117	.107	.097	.087	.076	.065
½	1.0–2.4	.30	.151	.131	.111	.101	.09	.08
	2.7–22 meg	.32	.16	.08	.072	.064	.058	.057
1	2.7–22 meg	.36	.18	.08	.077	.069	.062	.059
2	10–22 meg	.48	.30	.15	.143	.135	.10	.094

TOLERANCE ±10%

⅛	2.7–8.2	$0.29	$0.133	$0.125	$0.12	$0.116	$0.113	$0.111
	10–22 meg	.26	.12	.114	.11	.106	.103	.101
¼	2.7–8.2	.15	.098	.088	.077	.066	.052	.041
	10–1 meg	.13	.06	.05	.04	.03	.02	.019
	1.2–22 meg	.15	.097	.087	.076	.065	.051	.04
½	1.0–2.2	.15	.089	.079	.068	.057	.045	.037
	2.7–22 meg	.14	.069	.049	.042	.034	.028	.027
1	2.7–22 meg	.18	.09	.05	.046	.038	.031	.029
2	10–22 meg	.24	.19	.10	.089	.081	.052	.049

OHMITE® Resistors

VITREOUS ENAMELED RESISTORS

Dividohm® Adjustable Type: Vitreous enameled on ceramic cores with narrow strip of the wire-turns forming a contact surface for the embossed contact of a screwdriver—adjustable lug. A patented percentage of the resistance scale is stamped on the units to make it easy to set the lug at the desired value. **Fixed Resistors:** Lug type, wire-wound on ceramic cores. Wattage ratings are for use in free air.

STOCK VALUE ORDERING NUMBERS

	Dividohm Adjustable Resistor Type 210							Fixed Resistor Type 270				
Ohms	12-Watt	25-Watt	50-Watt	75-Watt	100-Watt	175-Watt	225-Watt	25-Watt	50-Watt	100-Watt	175-Watt	225-Watt
1	1001	0360	0560 A	0769 A	0956 A	1156 A	1356 A	0200J	0400J	0600C	0700C	0900C
2	1002	0360 B	0560 B	0769 B	0956 B	1156 B	1356 B	0200K	0400K	0600D	0700D	0900D
3	1003	0361	0560 C	0769 C	0956 C	1156 C	1356 C	0200L	0400L	0600E	0700E	0900E
4	.....	.....	0560 D	0769 D	0956 D	1156 D	1356 D	0200N	0400N	0600F	0700F	0900F
5	1004	0362	0560	0769	0956	1156	1356	0200A	0400A	0600A	0700A	0900A
7.5	1005	0362 B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	1006	0363	0561	0770	0957	1157	1357	0200B	0400B	0600B	0700B	0900B
15	1007	0364	.....	0771	.....	.....	.....	0200R	.....	.....	.....	.....
20	1008	0364 B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
25	1009	0365	0562	0772	0958	1158	1358	0200C	0400C	0601	0701	0901
50	1010	0366	0563	0773	0959	1159	1359	0200D	0400D	0602	0702	0902
75	1011	0367	0564	.....	.....	.....	.....	0200E	0400E	0603	0703	0903
100	1012	0368	0565	0774	0960	1160	1360	0200F	0400F	0604	0704	0904
125	.....	.....	.....	.....	.....	.....	.....	.....	.....	0604B	0704B	.....
150	1013	0369	0566	.....	.....	.....	.....	0200G	0400 G	0605	0705	0905
200	1014	0370	0567	0774 B	.....	.....	.....	0200 H	0400 H	.....	.....	.....
250	1015	0371	0568	0775	0960 B	1160 B	1360 B	0201	0401	0606	0706	0906
300	1016	0371 B	0568 B	0775 B	.....	.....	.....	.....	.....	.....	.....	.....
350	1017	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
400	1018	0371 C	0568 C	0775 C	.....	.....	.....	.....	.....	.....	.....	.....
500	1019	0372	0569	0776	0961	1161	1361	0202	0402	0607	0707	0907
600	1020	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
750	1021	0373	0570	0777	.....	.....	.....	0203	0403	0608	0708	0908
800	1022	0374	0571	0777 B	.....	.....	.....	0204	0404	.....	.....	.....
1000	1023	0375	0572	0778	0962	1162	1362	0205	0405	0609	0709	0909
1250	1024	0375 B	0572 B	0778 B	.....	.....	.....	.....	.....	.....	.....	.....
1500	1025	0376	0573	0779	0962 B	1162 B	1362 B	0206	0406	0610	0710	0910
2000	1026	0377	0574	0780	.....	.....	.....	0207	0407	0611	0711	0911
2250	1027	0377 B	0574 B	0780 B	.....	.....	.....	.....	.....	.....	.....	.....
2500	1028	0378	0575	0781	0963	1163	1363	0208	0408	0612	0712	0912
3000	1029	0379	0576	0781 B	.....	.....	.....	0209	0409	0613	0713	0913
3500	1030	0380	0576B	0782	.....	.....	.....	0210	.....	.....	.....	.....
4000	1031	0381	0577	0782 B	.....	.....	.....	0211	0410	.....	.....	.....
4500	1032	0381 B	0577 B	0782 C	.....	.....	.....	.....	.....	.....	.....	.....
5000	1033	0382	0578	0783	0964	1164	1364	0212	0411	0614	0714	0914
6000	1034	0383	0578 B	0783 B	.....	.....	.....	0213	.....	.....	.....	.....
7000	1035	0383 B	0578 C	0783 C	.....	.....	.....	.....	.....	.....	.....	.....
7500	1036	0384	0579	0784	.....	.....	.....	0214	0412	0615	0715	0915
8000	1037	0384 B	0580	0784 B	.....	.....	.....	.....	0413	.....	.....	.....
8500	1038	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9000	1039	0384 C	0580 B	0784 C	.....	.....	.....	.....	.....	.....	.....	.....
10K	1040	0385	0581	0785	0965	1165	1365	0215	0414	0616	0716	0916
12K	....	0386	0582	0785 B	.....	.....	.....	0216	0415	.....	.....	.....
15K	....	0387	0583	0786	0966	1166	1366	0217	0416	0617	0717	0917
20K	....	0388	0584	0787	0967	1167	1367	0218	0417	0618	0718	0918
25K	....	0389	0585	0788	0968	1168	1368	0219	0418	0619	0719	0919
30K	....	.....	0586	0789	0969	1169	1369	0220	.....	0620	0720	0920
35K	....	.....	.....	0790	.....	.....	.....	0221	0419	.....	.....	.....
40K	....	.....	0587	0791	0970	1170	1370	0222	.....	0621	0721	0921
45K	....	.....	.....	0792	.....	.....	.....	.....	.....	.....	.....	.....
50K	....	.....	0588	0793	0971	1171	1371	0224	0420	0622	0722	0922
60K	....	.....	0589	0794	.....	.....	.....	0225	.....	0623	0723	0923
70K	....	.....	.....	.....	.....	.....	.....	0226	.....	.....	.....	.....
75K	....	.....	.....	.....	0972	1172	1372	.....	0421	0624	0724	0924
80K	....	.....	0590	0795	.....	.....	.....	0227	.....	.....	.....	.....
100K	....	.....	0591	0796	0973	1173	1373	0229	0422	0625	0725	0925

Fixed Resistor Type 270, 50 Watt Only

Ohms	No.	Ohms	No.	Ohms	No.	Ohms	No.	Ohms	No.
125K	0423	150K	0424	175K	0425	200K	0426	250K	0428

FIXED 12-WATT NO. 270-12*

Limited space prevents full listing. Write for details, stock values.

Values, Ohms	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499	500 Up
.51–6.8	$1.20	$1.02	$0.84	$0.72	$0.60	$0.54
10–1K	.84	.71	.59	.50	.42	.38
1.2K–4.7K	.89	.76	.62	.53	.45	.40
5.6K–10K	1.00	.85	.70	.60	.50	.45
12K–18K	1.20	1.02	.84	.72	.60	.54
22K–39K	1.25	1.06	.88	.75	.63	.56
47K, 51K	1.36	1.16	.95	.82	.68	.61

DIVIDOHM® ADJUSTABLE 12-WATT NO. 210-12*

1–7.5	$1.99	$1.69	$1.39	$1.19	$1.00	$0.90
10–1K	1.73	1.47	1.21	1.04	.87	.78
1.25K–5K	1.79	1.52	1.25	1.07	.90	.81
6K–10K	1.99	1.69	1.39	1.19	1.00	.90

FIXED 25-WATT NO. 270-25

Core, 2″ x 5/16″; with No. 9 brackets. Mounting centers 2¾″.

1–4	$1.31	$1.11	$0.92	$0.79	$0.66	$.059
5–75	1.09	.93	.76	.65	.55	.49
100–1K	1.03	.90	.72	.62	.52	.46
1.5K–5K	1.09	.93	.76	.65	.55	.49
6K–10K	1.31	1.11	.92	.79	.66	.59
12K–20K	1.36	1.16	.95	.82	.68	.61
25K–40K	1.45	1.23	1.02	.87	.73	.65
50K, 60K	1.75	1.49	1.23	1.05	.88	.79
70K, 80K	2.03	1.73	1.42	1.22	1.01	.91
100K	2.31	1.96	1.62	1.39	1.16	1.04

DIVIDOHM ADJUSTABLE 25-WATT NO. 210-25

Core, 2″ x 5/16″; with No. 9 brackets. Mounting centers, 2¾″.

1–1K	$1.90	$1.62	$1.33	$1.14	$0.95	$0.86
1.25K–5K	1.99	1.69	1.39	1.19	1.00	.90
6K–10K	2.07	1.76	1.45	1.24	1.04	.93
12K–20K	2.19	1.86	1.53	1.31	1.10	.99
25K	2.36	2.01	1.65	1.42	1.18	1.06

*Core, 1¾″ x 5/16″; with No. 5 brackets; mtg. centers, 2 3/16″.

FIXED 50-WATT NO. 270-50

Core, 4″ x 5/8″; with No. 9 brackets. Mounting centers, 4¾″.

Values, Ohms	Net Each, Lots of 1-9	10-49	50-99	100 Up
1	$2.20	$1.87	$1.54	$1.32
2–5000	1.64	1.39	1.15	.98
7500–10K	1.74	1.49	1.23	1.05
12K–20K	1.95	1.66	1.37	1.17
25K and 35K	2.20	1.87	1.54	1.32
50K	2.51	2.13	1.76	1.51
75K	2.84	2.41	1.99	1.70
100K	3.06	2.60	2.14	1.84
125K	3.70	3.15	2.59	2.22
150K	3.90	3.32	2.73	2.34
175K	4.09	3.48	2.86	2.45
200K	4.26	3.62	2.98	2.56
250K	4.65	3.95	3.26	2.79

ADJUSTABLE 50-WATT NO. 210-50

Core, brkt. and mtg. ctrs., same as above.

1	$3.21	$2.73	$2.25	$1.93
2–1000	2.55	2.17	1.79	1.53
1250–5000	2.62	2.23	1.83	1.57
6000–10K	2.64	2.24	1.85	1.58
12K–20K	2.75	2.34	1.93	1.65
25K–40K	3.12	2.65	2.18	1.87
50K and 60K	3.35	2.85	2.35	2.01
80K	3.77	3.21	2.64	2.26
100K	3.97	3.38	2.78	2.36

ADJUSTABLE 75-WATT NO. 210-75

Core, 6″ x 5/8″; with No. 9 brackets. Mounting centers, 6¾″.

1 and 2	$3.81	$3.24	$2.68	$2.29
3–5000	3.09	2.63	2.16	1.85
6000–10K	3.21	2.73	2.25	1.93
12K–20K	3.36	2.86	2.35	2.02
25K–40K	3.63	3.09	2.54	2.18
45K–60K	4.04	3.43	2.83	2.42
80K	4.43	3.77	3.10	2.66
100K	4.64	3.94	3.25	2.78

FIXED 100-WATT NO. 270-100

Core, 6½″ x ¾″; with No. 12 brackets. Mounting centers. 7⅜″.

1–3	$3.07	$2.61	$2.15	$1.84
4–1000	2.65	2.25	1.86	1.59
1500–5000	2.78	2.36	1.95	1.67
7500 and 10K	2.93	2.49	2.05	1.76
15K and 20K	3.37	2.87	2.36	2.02
25K–40K	3.90	3.32	2.73	2.34
50K and 60K	4.00	3.40	2.80	2.40
75K	4.00	3.40	2.80	2.40
100K	4.15	3.53	2.91	2.49

ADJUSTABLE 100-WATT NO. 210-100

Core, brkt. and mtg. ctrs., same as above.

1–3	$4.68	$3.98	$3.28	$2.81
4–1000	4.39	3.73	3.07	2.63
1500–5000	3.66	3.11	2.56	2.20
10K	3.88	3.30	2.72	2.33
15K and 20K	4.07	3.46	2.85	2.44
25K–40K	4.42	3.76	3.09	2.65
50K	4.42	3.76	3.09	2.65
75K	4.81	4.09	3.37	2.89
100K	4.93	4.19	3.45	2.96

ADJUSTABLE TYPE 210*

Values, Ohms	175 Watt, Net Ea., Lots of 1-9	10-49	50-99	100 Up	225 Watt, Net Ea., Lots of 1-9	10-49	50-99	100 Up
1–5	$7.95	$6.76	$5.57	$4.77	$9.22	$7.84	$6.45	$5.53
10–1K	7.02	5.97	4.91	4.21	8.05	6.84	5.64	4.83
1.5K–5K	5.46	4.64	3.82	3.28	6.24	5.30	4.37	3.74
10K	5.37	4.57	3.76	3.22	6.34	5.39	4.44	3.80
15K, 20K	5.76	4.90	4.03	3.46	6.49	5.52	4.54	3.89
25K–40K	5.56	4.73	3.89	3.34	6.59	5.60	4.61	3.95
50K	5.56	4.73	3.89	3.34	6.59	5.60	4.61	3.95
75K	6.00	5.10	4.20	3.60	6.93	5.89	4.85	4.16
100K	6.44	5.47	4.51	3.86	7.37	6.27	5.16	4.42

FIXED TYPE 270*

1–5	$4.54	$3.86	$3.18	$2.72	$4.98	$4.23	$3.49	$2.99
10	4.54	3.86	3.18	2.72	4.98	4.23	3.49	2.99
25–1K	4.05	3.44	2.84	2.43	4.88	4.15	3.42	2.93
1.5K–5K	3.95	3.36	2.77	2.37	4.59	3.90	3.21	2.75
7.5K, 10K	4.10	3.49	2.87	2.46	4.39	3.73	3.07	2.63
15K, 20K	4.29	3.65	3.00	2.57	4.63	3.94	3.24	2.78
25K–40K	4.49	3.82	3.14	2.69	4.98	4.23	3.49	2.99
50K, 60K	4.59	3.90	3.21	2.75	5.37	4.57	3.76	3.22
75K	4.59	3.90	3.21	2.75	5.37	4.57	3.76	3.22
100K	4.68	3.98	3.28	2.81	5.61	4.77	3.93	3.37

*175 Watt: Core, 8½″ x 1⅛″; No. 18 brkts; mtg. ctrs., 9⅜″.
225 Watt: Core, 10½″ x 1⅛″; No. 18 brkts; mtg. ctrs., 11⅜″.

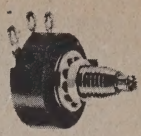
ADJUSTABLE LUGS

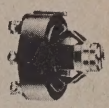
Core Dia.	Screwdriver Lug No.*	Net*	No.†	Net*	Bakelite Knob Lug No.*	Net*	No.†	Net*
5/16″	2115	$0.28	2116	$0.65	.....	.....	.....	.....
3/16″	2121	.28	2123	.60	2122	$1.05	2124	$1.38
¾″	2125	.32	2127	.60	2126	1.14	2128	1.46
1⅛″	2133	.41	2135	.81	2134	1.22	2136	1.62

*Standard. †Silver contact button. ***Larger quantities on request.**

CERMET CONTROLS

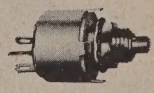
Cermet infinite resolution element offers stable performance in all environments. Resistance Tolerance: ±10%. Taper: Linear (A). Contact Resistance Variation: ±3% max. of total resistance. TC: ±150 ppm/° C. High Performance Models meet or exceed the applicable requirements of MIL-R-94 and MIL-R-23285. Single turn except otherwise noted. **High Performance Model 3852:** Housing ¾″ dia. x ¼″ lg. Resistance Range: 50 ohms to 5 megs. Power Rating: 2 watts at 70° C. Operating Temperature: −65° C to +150° C. **Multi-Turn Model 3856:** Features 3¼ turns which provide 1350° of electrical continuity travel. Housing: ¾″ dia. x ¼″ lg. Resistance Range: 50 ohms to 5 megs. Power Rating: 2 watts at 70° C. Operating Temperature Range: −65° C to +150° C. **Commercial Model 3859:** Same as Model 3852 except Operating Temperature Range: −65° C to +125° C and has plastic bushing. **High Performance Model 3862:** Housing ½″ dia. x 0.453″ lg. Resistance Range: 100 ohms to 5 megs. Power Rating: 1 watt at 125° C. Operating Temperature Range: −65° C to +175° C. All models supplied with hardware; types with locking bushings supplied with lock nut.
Available Options: (With Minimum Order Requirements.) Plain and flatted shaft ends; lug or PC terminals; other nominal resistance values; 10% audio CW taper (C) and CCW taper (F) with ±10% resistance tolerance; and ±5% resistance tolerance (H) are also available on special order.


Model 3852E


Model 3859B

Model 3862C

Model 3862E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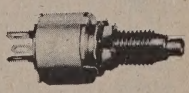

Model RV6L

PART NUMBERING SYSTEM AND ORDERING

3852	A	16	2	101	A

Bourns Model	Bushing Style	Bushing Lgth.	Shaft Dia.	Standard Shaft Lgth. (FMS) Lgth.	Code*
3852	A	⅜″	¼″	½″†	16
				⅞″	28
3852	B	½″	¼″	⅝″†	20
3852	C	¼″	⅛″	⅜″†	12
				⅞″	28
3852	E	⅜″	⅛″	½″†	16
3856	A	⅜″	¼″	⅞″†	28
3856	H	⅜″	¼″	⅞″†	28
3859	A	⅜″	¼″	½″†	16
				⅞″	28
3859	B	¼″	¼″	⅜″†	12
3862	C	¼″	⅛″	⅜″†	12
				⅞″	28
3862	E	½″	⅛″	⅝″†	20

Terminal and Shaft End	Resistance Code Value Ohms	Code	Value Ohms	Code	Taper and Resistance Tolerance
2, lugs, slotted	50‡	500	25K	253	Linear taper, ±10% resistance tolerance
	100	101	50K	503	
	250	251	100K	104	
6, printed circuit, slotted	500	501	250K	254	
	1K	102	500K	504	
	2.5K	252	1,000K	105	
	5K	502	2,500K	255	
	10K	103	5,000K	505	

*Shaft length numbering code is based on the number of 1/32″ increments in the length from the mounting surface (FMS), thus a ⅞″ shaft length is ordered as **28.** Shaft lengths other than those listed above are available with Minimum Order Requirements.
†Minimum length slotted shaft available for each model bushing combination shown. ‡50 ohm value not available in Model 3862.

DESCRIPTION AND PRICING

Bourns Model	Bushing Style	Bushing Lgth.	Shaft Dia.	Standard Shaft Lgth. (FMS)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3852A	⅜-32 UNEF	⅜″	¼″	½″ or ⅞″	$2.65	$2.36	$2.31	$2.20	$1.72	$1.36
3852B	⅜-32 UNEF locking	½″	¼″	⅝″	2.94	2.62	2.56	2.44	1.91	1.51
3852C	¼-32 UNEF	¼″	⅛″	⅜″ or ⅞″	2.81	2.50	2.44	2.33	1.83	1.44
3852E	¼-32 UNEF locking	⅜″	⅛″	½″	3.07	2.73	2.67	2.55	2.00	1.57
3856A	⅜-32 UNEF	½″	¼″	⅞″	6.00	5.35	5.09	4.61	3.90	3.06
3859A	⅜-32 UNEF threaded plastic	⅜″	¼″	½″ or ⅞″	2.15	1.91	1.87	1.78	1.40	1.10
3859B	Plastic snap-in	¼″	¼″	⅜″	2.15	1.91	1.87	1.78	1.40	1.10
3862C	¼-32 UNEF-2A	¼″	⅛″	⅜″ or ⅞″	4.50	3.95	3.65	2.80	2.20	1.85
3862E	¼-32 UNEF-2A locking	½″	⅛″	⅝″	4.76	4.17	3.86	2.96	2.33	1.96

CONDUCTIVE PLASTIC CONTROLS

The conductive plastic resistance element offers improved stability, low noise, and stable performance in all environments. The one-piece, molded-in terminations eliminate bonded connections and stress problems. **Housing:** ¾″ diameter. **Resistance Range:** 1K to 100K in linear tapers, 2K to 50K in audio tapers. **Power Rating:** ½ W at 70° C.

Bourns Model	Bushing Style	Bushing Lgth.	Shaft Dia.	Standard Shaft Length Lgth.	(FMS) Code*	Terminal & Shaft End	Resistance Code Value Ohms	Code	Taper and Resistance Tolerance
3851	A	⅜″	¼″	½″†	16	2, lugs, slotted	1K	102	B—Linear ±20%
				⅞″	28		2.5K	252	
				2″	64		5K	502	
	B	½″	¼″	⅝″†	20	6, PC, slotted	10K	103	
	C	¼″	⅛″	⅜″†	12		25K	253	
				⅞″	28		50K	503	
	E	¼″	⅛″	½″†	16		100K	104	
3858	A	⅜″	¼″	½″†	16				
				⅞″	28				
				2″	64				
	B	¼″	¼″	⅜″†	12				

*Shaft length numbering code is based on the number of 1/32″ increments in the length from the mounting surface (FMS), thus a ⅞″ shaft length is ordered as 28. †Minimum length slotted shaft available for each model bushing combination shown.

DESCRIPTION AND PRICING

Bourns Model	Bushing Style	Shaft Dia.	Standard Shaft Length FMS	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3851A	⅜-32 UNEF	¼″	½″ or ⅞″ or 2″	$2.15	$1.93	$1.88	$1.82	$1.38	$1.10
3851B	⅜-32 UNEF locking	¼″	⅝″	2.34	2.10	2.05	1.98	1.50	1.20
3851C	¼-32 UNEF	⅛″	⅜″ or ⅞″	2.22	1.99	1.94	1.88	1.42	1.14
3851E	¼-32 UNEF locking	⅛″	½″	2.46	2.21	2.15	2.09	1.58	1.26
3858A	⅜-32 UNEF	¼″	½″ or ⅞″ or 2″	1.97	1.80	1.74	1.71	1.31	1.01
3858B	Plastic Snap-in	¼″	⅜″	1.97	1.80	1.74	1.71	1.31	1.01

MODEL RV6 HOT MOLDED CARBON CONTROLS

Listed on DESC QPL for MIL-R-94, RV6 style. Resistance Tolerance: ±10% to 500K; ±20% 1 meg and above. Taper: Linear. Housing: 0.500″ dia. x 0.453″ lg. Resistance Range: 100 ohms thru 5 megs. Power Rating: ½ watt at 70° C. Operating Temperature Range: −55° C to +120° C. **Model RV6N:** ¼-32 UNEF-2A non-locking bushing, ⅜″ or ⅞″ lg. shaft with screwdriver slot; solder lug terminals. **Model RV6L:** ¼-32 UNEF-2A locking bushing, ⅝″ lg. shaft with screwdriver slot; solder lug terminals.

Bourns Model	Resistances (Use order code)	Bushing and Shaft	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
RV6NAYSL ( ) A	100 ohms to 500K	¼″ Plain	$4.51	$4.01	$2.41	$2.07	$1.77
RV6NAYSL ( ) B	1 meg to 5 meg	⅜″ Slotted	4.51	4.01	2.41	2.07	1.77
RV6NAYSD ( ) A	100 ohms to 500K	¼″ Plain	4.51	4.01	2.41	2.07	1.77
RV6NAYSD ( ) B	1 meg to 5 meg	⅞″ Slotted	4.51	4.01	2.41	2.07	1.77
RV6LAYSA ( ) A	100 ohms to 500K	½″ Locking	4.56	4.07	2.56	2.20	1.88
RV6LAYSA ( ) B	1 meg to 5 meg	⅝″ Slotted	4.56	4.07	2.56	2.20	1.88

STANDARD RESISTANCE VALUE ORDER CODE

50	(500)
100	(101)
250	(251)
500	(501)
1K	(102)
2.5K	(252)
5K	(502)
10K	(103)
25K	(253)
50K	(503)
100K	(104)
250K	(254)
500K	(504)
1 meg	(105)
2.5 meg	(255)
5 meg	(505)

BOURNS® PART NUMBERING SYSTEM

Resistance tolerance given is standard; closer tolerances available. Standard resistance range given; special resistances available. Panel mount available with lead, lug or wire types as noted.

200, 3010	L	1	102	M
Basic Model Contains 3 or 4 digits	**Terminal Style** **J, S**—Solder lugs **L**—Insulated stranded leads **H**—PC pins **P, T, Y**—Flat mounting PC pins **W, W66, X**—Edge mounting PC pins	**Modifying Number** **1**—Standard resistance **2**—100K standard resistance	**Resistance Code** First 2 digits indicate significant numbers; 3rd digit indicates number of zeros	**Panel Mount** Available as noted

COMMERCIAL SINGLE-TURN POTENTIOMETERS

TRIMIT® WIRE-WOUND MODEL 3305

Model 3305P

Sealed to prevent contamination from fluxing, soldering and cleaning. Stops provided at each end of travel. Mechanical Rotation: 280° nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±5%. Size: 0.31″ dia. x 0.19″ h. (**P**); 0.250″ w. x 0.312″ h. x 0.375″ lg. (**W**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3305	P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K	$1.93	$1.85	$1.77	$1.72	$1.62	$1.51
		10K	2.20	2.11	2.02	1.96	1.85	1.73
		25K	2.75	2.64	2.53	2.45	2.31	2.16
	W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K	2.48	2.38	2.28	2.20	2.08	1.95
		10K	2.75	2.64	2.53	2.45	2.31	2.16
		25K	3.30	3.17	3.04	2.94	2.77	2.60

Model 3345W

WIRE-WOUND MODEL 3345

Sealed for printed circuit applications; meets MIL humidity test. Stops provided at each end of adjustment. Mechanical Rotation: 280° nom. Power Rating: 1.0 watt at 70° C. Operating Temperature: 150° C max. Tolerance: ±5%. Size: 0.45″ dia. x 0.25″ h. (**P**); 0.45″ w. x 0.57″ h. x 0.32″ lg. (**W**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3345	P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$2.30	$2.09	$1.88	$1.71	$1.60	$1.45
	W	20K, 50K	3.30	3.01	2.71	2.44	2.30	2.08

Model 3305W

HIGH PERFORMANCE PALIRIUM® CERMET MODEL 3329

Sealed to withstand any wave soldering and immersion cleaning process; meets MIL humidity test. Mechanical Rotation: 240° nom. Power Rating: 0.5 watt at 85° C. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.25″ dia. x 0.18″ h. (**H, P**); 0.29″ w. x 0.245″ h. x 0.375″ lg. (**W**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3329	H, P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$1.75	$1.66	$1.57	$1.50	$1.45	$1.40
	W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	2.50	2.38	2.25	2.15	2.07	2.00

Model 3345P

CERMET MODEL 3389

Low cost potentiometer sealed for industrial process cleaning; meets MIL humidity test. Mechanical Rotation: 280° nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±20%. Mounting: H, S and W, edge mounting PC pins; P, R and T, flat mounting PC pins. Size: 0.394″ w. x 0.24″ h. x 0.36″ lg. (**P, R, S, T, W**); 0.394″ w. 0.36″ h. x 0.24″ lg. (**H**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3389	H	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$0.91	$0.84	$0.79	$0.76	$0.71	$0.66
	P, R, S, T, W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	.76	.70	.65	.63	.60	.56

Model 3329H

CERMET MODEL 3386

Wide choice of terminal styles cover almost any PC board layout requirements. Meets MIL humidity test; sealed to withstand wave soldering processes. Mechanical Rotation: 280° nom. Power Rating: 0.5 watt at 85° C. Operating Temperature: 125° C max. Tolerance: ±10%. Mounting: F, K, M, P and R are top adjust PC pins; B, C, H, S and W are side adjust PC pins. **H, P** (TO-5), **C, W** (0.100″ inline), **B, M, R, S** (0.150″ inline), **F** (0.200″ grid) and **K** (triangular). Size: ⅜″ square x 0.19″ d.

Model 3386R

Bourns Model	Specify Terminal Top	Side	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3386	F	B	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$0.76	$0.70	$0.65	$0.63	$0.60	$0.56
	K	C							
	M	H							
	P	S							
	R	W							

Model 3389T

CERMET MODEL 3352

Choice of 6 terminal styles covers almost any PC board layout requirement. Meets MIL humidity test; withstands industrial board-cleaning processes with less than 1% shift in total resistance. **Mechanical rotation:** 230° nom. **Power Rating:** 0.75 W at 40° C. **Operating Temperature:** 125° C. max. **Tolerance:** ±20% standard, closer tolerances available. **Mounting:** T, E, and P are top adjust PC pins; W, H, and V are side adjust PC pins. Has thumb wheel with crossed slots.

Model 3389W

Bourns Model	Specify Terminal Top	Side	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3352	F	W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs.	$0.61	$0.57	$0.54	$0.53	$0.52	$0.48
	E	H							
	P	V							

COMMERCIAL MULTI-TURN POTENTIOMETERS

WIRE-WOUND E-Z-TRIM® MODEL 3005

Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw; 20-turn screwdriver adjustment. Power Rating: 1.0 watt at 40° C. Abs. Min. Res.: 0.5% or 1.0 ohm, whichever is greater. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.17″ w. x 0.31″ h. x 0.75″ lg.

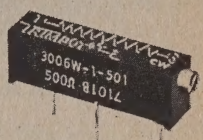
Bourns Model	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
3005P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K	$2.00	$1.85	$1.75	$1.72	$1.65	$1.55

Models 3005P, 3007P

CERMET MODEL 3006

Low cost industrial model only 0.250″ high above the printed circuit board. TC: ±100 ppm/° C. Power Rating: 0.75 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±10%. Mechanical Adjustment: 15 turns nom. Size: 0.75″ x 0.190″ x 0.250″ th.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3006	P W Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$1.40	$1.30	$1.21	$1.19	$1.15	$1.08

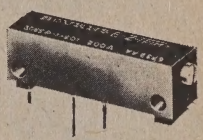


Model 3006W, 3009P

WIRE-WOUND E-Z-TRIM® MODEL 3007

Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw; 20-turn screwdriver adjustment; welded terminations. Power Rating: 1.0 watt at 40° C. Abs. Min. Res.: 0.5% or 1.0 ohm, whichever is greater. Operating Temperature: 125° C. Tolerance: ±10%. Size: 0.17″ w. x 0.31″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
3007P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K	$2.00	$1.85	$1.75	$1.72	$1.65	$1.55



Models 3065P, 3067P

CERMET E-Z-TRIM® MODEL 3009

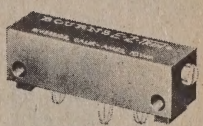
Wiper assembly idles at both ends; 20 turns nominal adjustment. TC: ±100 ppm/° C. Power Rating: 0.75 watt at 25° C. Abs. Min. Res.: 2.0% or 1 ohm, whichever is greater. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.19″ w. x 0.35″ h. x 0.75″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3009	P Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$1.94	$1.84	$1.75	$1.71	$1.65	$1.55

HUMIDITY-PROOF WIRE-WOUND E-Z-TRIM® MODEL 3065

Meets steady-state humidity spec. Adjustment turns, 15 nom. Power Rating: 0.5 watt at 25° C. Operating Temperature: 85° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.36″ h. x 1.0″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3065	P S	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	$2.13	$1.97	$1.77	$1.68	$1.58	$1.50

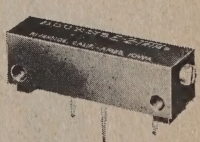


Models 3067S, 3068S

WIRE-WOUND E-Z-TRIM® MODEL 3067

Wiper assembly idles at both ends of travel; 15-turn screwdriver adjustment. Power Rating: 0.5 watt at 25° C. Operating Temperature: 85° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.36″ h. x 1.0″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3067	P S	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	$2.13	$1.97	$1.77	$1.68	$1.58	$1.50



Model 3068P

CARBON E-Z-TRIM® MODEL 3068

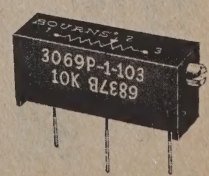
Stable infinite resolution carbon element. Self-locking adjustment screw; 15-turn screwdriver adjustment. Power Rating: 0.2 watt at 25° C. End Setting: 0–5% voltage ratio. Operating Temperature: 85° C max. Tolerance: ±20%. Size: 0.28″ w. x 0.36″ h. x 1.00″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3068	P S	20K, 50K, 100K, 200K, 500K, 1 meg	$2.13	$1.97	$1.77	$1.68	$1.58	$1.50

CERMET E-Z-TRIM® MODEL 3069

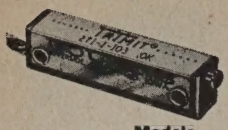
MIL spec immersion seal; tinned pins for compatibility with automated and hand soldering methods; 20 turns nominal adjustment. TC: ±100 ppm/° C. Power Rating: 0.75 watt at 25° C. Abs. Min. Res.: 2% or 1 ohm, whichever is greater. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.25″ w. x 0.35″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
3069P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$1.94	$1.84	$1.75	$1.71	$1.65	$1.55



Model 3069P

COMMERCIAL MULTI-TURN POTENTIOMETERS (CONT'D)

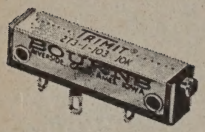


Models 271L, 272L

WIRE-WOUND TRIMIT® MODELS 271, 273, 275

Ideal for industrial controls and lab type applications. Self-locking adjustment shaft; wiper assembly idles both ends; 25-turn screwdriver adjustment. Power Rating: 0.5 watt at 70° C. Abs. Min. Res.: 2.0%. Operating Temperature: 105° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
271	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$3.51	$3.25	$2.93	$2.77	$2.60	$2.46
273	S	20K	4.75	4.40	3.96	3.76	3.52	3.34
275	P	50K	5.94	5.50	4.95	4.70	4.40	4.18
Panel mount		Available 271 or 273 model. Add to price	1.10	1.02	.92	.87	.82	.77



Models 273S, 274S

CARBON TRIMIT® RESISTON® MODELS 272, 274, 276

Infinite resolution Resiston carbon element. Self-locking shaft; 25-turn adjustment. Power Rating: 0.2 watt at 25° C. End Setting: 0-5.0% voltage ratio. Operating Temperature: 105° C max. Tolerance: ±20%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

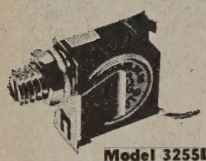
272 274 276	L S P	5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs, 5 megs	$4.16	$3.85	$3.47	$3.29	$3.08	$2.93
Panel mount		Available 272 or 274 model. Add to price	1.10	1.02	.92	.87	.82	.77

Models 275P, 276P

WIRE-WOUND MODEL 3255

High temperature all-plastic case; 25-turn screwdriver adjustment; meets MIL steady-state humidity specs. Power Rating: 1.0 watt at 50° C. Operating Temperature: 150° C max. Tolerance: ±5%. Size: 0.50″ sq. x 0.19″ thk. (L); 0.22″ thk. (P or W).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3255	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$3.51	$3.25	$2.93	$2.77	$2.60	$2.46
	P	20K, 25K	4.75	4.40	3.96	3.76	3.52	3.34
	W	50K	5.26	4.87	4.38	4.16	3.89	3.70
Panel mount		Available L or W terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55



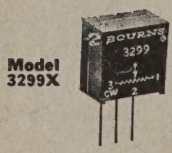
Model 3255L Panel Mount

CERMET MODEL 3299

Sealed to withstand wave-soldering and cleaning processes; humidity meets MIL-STD-202. Mechanical Adjustment: 25 turns nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.37″ w. x 0.39″ h. x 0.25″ lg.

3299	P W X	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg	$1.66	$1.54	$1.44	$1.41	$1.37	$1.28

INDUSTRIAL SINGLE-TURN POTENTIOMETERS



Model 3299X

HUMIDITY-PROOF HIGH TEMPERATURE WIRE-WOUND MODEL 3300

High temperature; humidity-proof to MIL specs. Single turn adjustment, 300° nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.31″ dia. x 0.18″ h. (P); 0.31″ dia. x 0.46″ h. (S); 0.25″ w. x 0.37″ h. x 0.31″ lg. (W).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3300	P or W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 6.53	$ 6.05	$5.45	$5.17	$4.84	$4.60
		25K	8.32	7.70	9.93	6.58	6.16	5.85
	S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	9.80	9.08	8.17	7.76	7.26	6.90
		25K	11.58	10.73	9.66	9.16	8.58	8.15

Model 3300W

CERMET MODEL 3322 (RJ50)

Meets or exceeds MIL-R-22097, Style RJ50. Single turn adjustment, 240° nom. Power Rating: 0.5 watt at 85° C. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.25″ dia. x 0.22″ thk.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3322P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$6.05	$5.74	$5.39	$5.13	$4.79	$4.54

Model 3300S

MODEL RVC6 CERMET CONTROLS

Listed on DESC QPL for MIL-R-23285. **Resistance Tolerance:** ±10% standard. **Taper:** linear and audio clockwise. **Resistance Range:** 1000 ohms thru 2.5 megs. **Power Rating:** ½ W @ 125° C. **Model RVC6N/S:** ¼-32 UNEF-2A plain bushing requires H-40-2 panel O-ring, ⅜″ or ⅛″ long shaft with slot, flatted shaft available with shaft lengths over ½″. **Model RVC6L/T:** ¼-32 UNEF-2A locking bushing requires H-40-2 panel O-ring, ⅜″ long shaft with slot. Models have solder-lug terminals or PC pins.

Model 3322P

Bourns Number	Resistance (Part No.) Value	Bushing & Shaft	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
RVC6NYD( )B	(102) 1K	¼″ Plain ⅛″ Slotted	$5.15	$4.15	$3.90	$3.50	$3.05	$2.10
	(252) 2.5K		5.15	4.15	3.90	3.50	3.05	2.10
	(502) 5K		5.15	4.15	3.90	3.50	3.05	2.10
	(103) 10K		5.15	4.15	3.90	3.50	3.05	2.10
RVC6NYL( )B	(253) 25K	¼″ Plain ⅜″ Slotted	5.15	4.15	3.90	3.50	3.05	2.10
	(503) 50K		5.15	4.15	3.90	3.50	3.05	2.10
	(104) 100K		5.15	4.15	3.90	3.50	3.05	2.10
	(254) 250K		5.15	4.15	3.90	3.50	3.05	2.10
RVC6LYA( )B	(504) 500K	¼″ Locking ⅝″ Slotted	5.30	4.28	4.01	3.60	3.14	2.16
	(105) 1 meg		5.30	4.28	4.01	3.60	3.14	2.16
	(205) 2 meg		5.30	4.28	4.01	3.60	3.14	2.16
	(255) 2.5 meg		5.30	4.28	4.01	3.60	3.14	2.16

Model 3339P

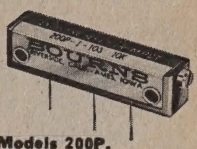
INDUSTRIAL MULTI-TURN POTENTIOMETERS

WIRE-WOUND MODEL 200

Exceeds steady-state humidity of MIL-STD-202. Power Rating: 0.5 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 105° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
200	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$4.86	$4.50	$4.05	$3.84	$3.60	$3.42
	P	20K, 25K	6.48	6.00	5.40	5.12	4.80	4.56
	S	50K	7.56	7.00	6.30	5.98	5.60	5.32
Panel mount		Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

Models 200L, 215L, 260L



Models 200P, 215P, 260P

RESISTON® CARBON MODEL 215

Excellent shock, vibration and acceleration stability. Stable wiper assembly idles at both ends; self-locking adjustment, 22 turns nom. Power Rating: 0.25 watt at 50° C. Operating Temperature: 135° C max. Tolerance: ±20%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

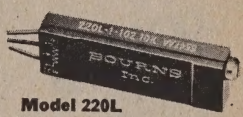
Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
215	L	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs	$5.35	$4.95	$4.46	$4.22	$3.96	$3.76
	P							
	S							
Panel mount		Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

Models 200, 215, 260 Panel Mount

HIGH TEMPERATURE WIRE-WOUND MODEL 220 (RT10)

Meets or exceeds all requirements of MIL-R-27208, Style RT10. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 15 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.18″ w. x 0.32″ h. x 1.00″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
220	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 9.50	$8.80	$7.92	$7.51	$7.04	$6.69
	P	20K, 25K, 30K	11.29	10.45	9.41	8.92	8.36	7.94
	W							
Panel Mount		Available L or W terminals. Add to price	1.10	1.02	.92	.87	.82	.77



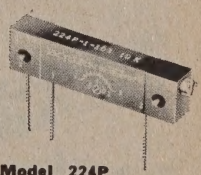
Model 220L

HIGH TEMPERATURE WIRE-WOUND MODEL 224 (RT12)

Meets or exceeds all requirements of MIL-R-27208. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
224	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 7.72	$7.15	$6.44	$6.11	$5.72	$5.43
	P	20K, 25K	9.50	8.80	7.92	7.51	7.04	6.69
	S	50K	10.10	9.35	8.42	7.99	7.48	7.11
Panel mount		Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

Model 224L



Model 224P

HIGH TEMPERATURE WIRE-WOUND MODEL 260

Exceeds steady-state humidity requirements to MIL-STD-202. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
260	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$6.53	$6.05	$5.45	$5.17	$4.84	$4.60
	P	20K, 25K	8.32	7.70	6.93	6.58	6.16	5.85
	S	50K	8.91	8.25	7.43	7.05	6.60	6.27
Panel mount		Available L or S terminals. Add to basic price	1.10	1.02	.92	.87	.82	.77

Model 224S

INDUSTRIAL FOUR-TURN POTENTIOMETER

CERMET MODEL 3339

Sealed to withstand wave soldering and immersion cleaning process; humidity meets MIL-STD-202. Four turn adjustment. Power Rating: 0.5 watt at 85° C. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.30″ dia. x 0.25″ thk. (**H, P**); 0.320″ w. x 0.315″ d. x 0.375″ h. (**W**).

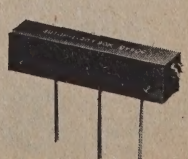
Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3339	H, P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$2.50	$2.32	$2.09	$1.98	$1.86	$1.76
	W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	3.50	3.25	2.93	2.78	2.61	2.47

Model 3010L

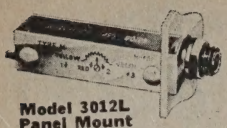
HIGH TEMPERATURE WIRE-WOUND MODEL 3010

Meets MIL-R-27208. Sealed against humidity, liquids and potting compounds. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3010	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 7.72	$7.15	$6.44	$6.11	$5.72	$5.43
	P	20K, 25K	9.50	8.80	7.92	7.51	7.04	6.69
		50K	10.10	9.35	8.42	7.99	7.48	7.11
Panel mount		Available L terminal. Add to basic price	1.10	1.02	.92	.87	.82	.77

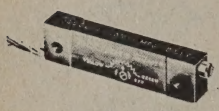


Model 3010P

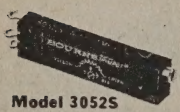


Model 3012L
Panel Mount

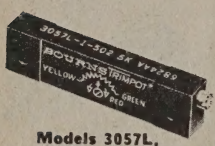
Model 3012P



Model 3052L

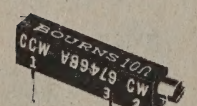


Model 3052S

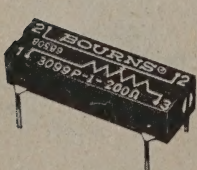


Models 3057L,
3059L

Models 3057P,
3059P



Model 3082P



Models 3095P,
3099P

Model
3262P

INDUSTRIAL MULTI-TURN POTENTIOMETERS (CONT'D)

HIGH TEMPERATURE CERMET MODEL 3012

Meets or exceeds requirements of MIL-R-22097. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3012	L P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs	$6.53	$6.05	$5.45	$5.17	$4.84	$4.60
Panel mount		Available **L** terminal. Add to price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE CERMET MODEL 3052

Meets MIL humidity spec. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3052	L P S Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$6.53	$6.05	$5.45	$5.17	$4.84	$4.60
Panel mount		Available **L** or **S** terminals. Add to price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE HUMIDITY-PROOF WIRE-WOUND MODEL 3057 (RT12)

Humidity proof to MIL spec; meets MIL spec tests for styles RT12 and RTR12 level M. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 150° C max. Tolerance: ±5%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3057	J L P Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$6.22	$5.51	$4.73	$4.25	$4.06	$3.88
		20K	6.85	6.05	5.24	4.69	4.48	4.26
		50K	7.47	6.60	5.71	5.11	4.87	4.65
		100K	9.45	8.36	7.23	6.79	6.48	6.09
Panel mount		Available **J** or **L** terminals. Add to price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE HUMIDITY-PROOF CERMET MODEL 3059 (RJ12)

MIL spec immersion seal gives trouble free operation after PC board processes. Solderable pins for compatibility with automated and hand soldering methods. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 105° C max. Tolerance: ±10%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3059	J L P Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs	$3.30	$3.14	$2.97	$2.83	$2.67	$2.52
Panel mount		Available **J** or **L** terminals. Add to price	1.10	1.02	.92	.87	.82	.77

HUMIDITY-PROOF CERMET MODEL 3082

Meets MIL humidity spec. Power Rating: 0.3 watt at 85° C. Mechanical Adjustment: 10 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.10″ w. x 0.15″ h. x 0.50″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3082P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs	$7.70	$7.13	$6.42	$6.09	$5.71	$5.42

WIRE-WOUND DUAL-IN-LINE MODEL 3095

Sealed against humidity to MIL spec. Standard DIP size (TO-116) compatible with automatic insertion equipment. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 18 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.25″ w. x 0.19″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3095P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K	$3.75	$3.35	$3.00	$2.80	$2.60	$2.45
	50K	5.00	4.46	4.00	3.73	3.46	3.26

CERMET DUAL-IN-LINE MODEL 3099

Sealed to meet MIL-R-22097 immersion requirements. Standard DIP size (TO-116) compatible with DIP automatic insertion equipment. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 20 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.25″ w. x 0.19″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3099P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$3.75	$3.35	$3.00	$2.80	$2.60	$2.45

HUMIDITY-PROOF HIGH TEMPERATURE CERMET MODEL 3262 (RJ26)

Meets or exceeds all requirements of MIL-R-22097, Style RJ26. Power Rating: 0.25 watt at 85° C. Mechanical Adjustment: 12 turns nom. Operating Temperature: 175° C. Tolerance: ±10%. Size: 0.27″ w. x 0.17″ h. x 0.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3262	P W X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg	$7.53	$6.83	$6.13	$5.83	$5.46	$5.19

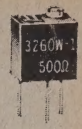
INDUSTRIAL MULTI-TURN POTENTIOMETERS (CONT'D)

¼" SQUARE HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3260 (RT26)

Meets or exceeds all requirements of MIL-R-27208, Style RT26. Power Rating: 0.2 watt at 70° C. Mechanical Adjustment: 11 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.25" sq. x 0.17" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3260	H	10, 20, 50, 100, 200, 500, 1K	$ 8.25	$ 7.65	$ 6.88	$6.52	$6.12	$5.81
	W	2K, 5K	9.08	8.40	7.57	7.18	6.72	6.39
		10K, 20K	11.55	10.69	9.63	9.14	8.56	8.13
		25K	12.10	11.21	10.09	9.57	8.97	8.51

Model 3260H



Model 3260W

½" SQ. HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3250 (RT22)

Humidity-proof; sealed in high-temperature plastic case. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.50" sq. x 0.19" h. (**L**); 0.22" h. (**P, W, W66**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3250	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 7.38	$ 6.84	$6.15	$5.84	$5.47	$5.19
		20K, 25K	8.32	7.70	6.93	6.58	6.16	5.85
		50K	11.00	10.20	9.17	8.70	8.15	7.74
	P W W66	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.95	7.36	6.62	6.28	5.89	5.59
		20K, 25K	8.77	8.12	7.30	6.93	6.49	6.17
		50K	11.58	10.73	9.66	9.16	8.58	8.15
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

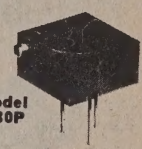
Model 3250L

½" SQ. HIGH PERFORMANCE HUMIDITY-PROOF CERMET MODEL 3252 (RJ22)

Meets or exceeds requirements of MIL-R-22097, Style RJ22. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 23 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.50" sq. x 0.22" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3252	L P W X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$5.90	$5.62	$5.31	$5.01	$4.73	$4.25
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

Model 3252P


Model 3280P

⅜" SQUARE HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3280

Meets or exceeds requirements of MIL-R-27208. All plastic case provides sealing against liquids and potting compounds plus reliable moisture resistance. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.375" sq. x 0.203" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3280	L P W W66	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 8.32	$7.70	$6.93	$6.58	$6.16	$5.85
		20K, 25K	10.10	9.35	8.42	7.99	7.48	7.11
		50K	10.69	9.90	8.91	8.46	7.92	7.52
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

Model 3282H

⅜" SQUARE HUMIDITY-PROOF CERMET MODEL 3282

Meets applicable requirements of MIL-R-22097. Stacking tabs for alignment and anti-rotation locking. Power Rating: 0.5 watt at 85° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.375" sq. x 0.20" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3282	H L P W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg	$7.15	$6.80	$6.44	$6.29	$6.07	$5.70

Model 3290L

⅜" SQUARE HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3290 (RT24)

Meets or exceeds MIL-R-27208. All plastic case provides sealing against liquids and potting; positive end stops; reliable moisture resistance. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.375" sq. x 0.15" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3290	H L P W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 8.06	$ 7.47	$6.72	$6.38	$5.97	$5.68
		20K, 25K	9.63	8.91	8.03	7.61	7.13	6.78
		50K	11.11	10.29	9.26	8.79	8.23	7.82
Panel mount		Available **H, L, W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

Model 3290P

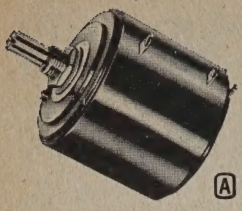
⅜" SQUARE THIN LINE CERMET MODEL 3292 (RJ24)

Meets or exceeds all requirements of MIL-R-22097, Style RJ24. Power Rating: 0.5 watt at 85° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.375" sq. x 0.150" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3292	L P W X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg	$6.83	$6.49	$6.14	$6.01	$5.80	$5.44
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

Model 3292L

Model 3292P


A

BUSHING MOUNT PRECISION POTENTIOMETERS

Lockwasher and mounting nut supplied. Standard resistance range given; special resistances available. Resistance Code: First 2 digits indicate significant Nos.; 3rd digit number of zeros, e.g., 101 = 100 ohms.

10-TURN 1-13/16" DIAMETER WIRE-WOUND MODEL 3400 (FIG. A)

Power Rating: 5 watts at 40° C. Independent Linearity: ±0.15%. Operating Temperature: 105° C max. Resistance Tolerance: ±3%. Size: 1 13/16" dia. x 1¾" lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3400S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K	$13.51	$11.48	$10.81	$10.13	$ 9.46	$ 8.78
	500K	27.41	23.30	21.93	20.56	19.19	17.82

B

10-TURN ⅞" DIAMETER WIRE-WOUND MODEL 3500 (FIG. B)

Power Rating: 2.0 watts at 70° C. Independent Linearity: ±0.20%. Operating Temperature: 125° C max. Resistance Tolerance: ±3%. Size: ⅞" dia. x 1" lg.

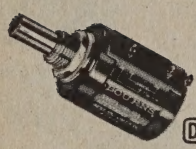
Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3500S-1 or 3500S-2	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 125K	$13.60	$11.56	$10.88	$10.20	$ 9.52	$ 8.84
	150K, 200K, 250K	27.50	23.38	22.00	20.63	19.25	17.88
	500K	41.39	35.18	33.11	31.04	28.97	26.90

C

10-TURN ⅞" DIAMETER CONDUCTIVE PLASTIC MODEL 3501 (FIG. C)

Power Rating: 2 watts at 70° C. Independent Linearity: ±0.5%. Operating Temperature: 105° C max. Resistance Tolerance: ±10%. Size: ⅞" dia. x 1" lg.

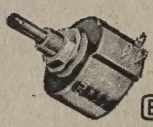
Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3501S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 125K, 150K, 200K, 250K, 500K	$20.26	$17.22	$16.21	$15.20	$14.18	$13.17
	1 meg, 2 megs, 4 megs	51.15	43.48	40.92	38.36	35.81	33.25


D

10-TURN ⅞" DIAMETER WIRE-WOUND MODEL 3509 (FIG. D)

Power Rating: 2 watts at 25° C. Independent Linearity: ±0.25%. Operating Temperature: 105° C max. Resistance Tolerance: ±5%. Size: ⅞" dia. x 1⅛" lg. Nonmetallic shaft and bushing (suffix -1); for stainless steel shaft and aluminum bushing, order 3509S-8.

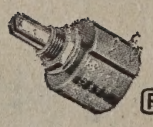
3509S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$8.70	$7.40	$6.96	$6.53	$6.09	$5.66
3509S-8	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	9.63	8.19	7.70	7.22	6.74	6.26


E

3-TURN ⅞" DIAMETER CONDUCTIVE PLASTIC MODEL 3511 (FIG. E)

Power Rating: 1 watt at 70° C. Independent Linearity: ±1.0%. Operating Temperature: 105° C max. Resistance Tolerance: ±10%. Size: ⅞" dia. x 9/16" lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3511S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K	$28.54	$24.26	$22.83	$21.41	$19.98	$18.55


F

5-TURN ⅞" DIAMETER WIRE-WOUND MODEL 3520 (FIG. F)

Power Rating: 1.5 watts at 70° C. Independent Linearity: ±0.3%. Operating Temperature: 125° C max. Resistance Tolerance: ±3%. Size: ⅞" dia. x 1 1/16" lg.

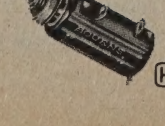
3520S-1	25, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K	$20.37	$17.31	$16.30	$15.28	$14.26	$13.24
	100K	34.26	29.12	27.41	25.70	23.98	22.27
	250K	48.17	40.94	38.54	36.13	33.72	31.31

G

5-TURN ⅞" DIAMETER CONDUCTIVE PLASTIC MODEL 3521

Power Rating: 1.5 watts at 70° C. Independent Linearity: ±0.5%. Operating Temperature: 105° C max. Resistance Tolerance: ±10%. Size: ⅞" dia. x 1 1/16" lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3521S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K	$28.54	$24.26	$22.83	$21.41	$19.98	$18.55


H

10-TURN ½" DIAMETER WIRE-WOUND MODEL 3540 (FIG. G)

Power Rating: 2.0 watts at 70° C. Independent Linearity: ±0.25%. Operating Temperature: 125° C max. Resistance Tolerance: ±5%. Size: ⅞" dia. x ¾" lg.

3540S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$6.25	$6.25	$5.65	$5.35	$5.05	$4.75

10-TURN ½" DIAMETER CONDUCTIVE PLASTIC MODEL 3701

Power Rating: 1.0 watt at 70° C. Independent Linearity: ±1.0% Operating Temperature: 105° C max. Resistance Tolerance: ±10%. Size: ½" dia. x 1" lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3701S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K	$47.28	$40.19	$37.82	$35.46	$33.10	$30.73

10-TURN ½" DIAMETER WIRE-WOUND MODEL 3707 (FIG. H)

Power Rating: 1.0 watt at 40° C. Independent Linearity: ±1.0%. Operating Temperature: 105° C max. Resistance Tolerance: ±5%. Size: ½" dia. x 1" lg.

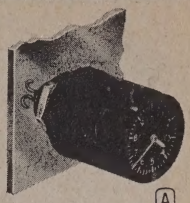
3707S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$23.32	$19.82	$18.66	$17.49	$16.32	$15.16

KNOBPOT® WIRE-WOUND READOUT POTENTIOMETERS

Knob, readout dial and potentiometer in one package requires less front panel space than most dials alone. Self-locking feature provides excellent stability during vibration and shock; 100% contact pressure control insures high mechanical life. Sealed to pass MIL-STD-202, Method 103, humidity. Shock: 50G. Vibration: 10G. Electrical Rotation: 3600° nom. Mechanical Life: 200,000 dial revolutions (Model 3610, 50,000 dial revolutions). Lockwasher and mounting nut included.

10-TURN ¾" DIA. CLOCK FACE READOUT KNOBPOT® MODEL 3600 (FIG. A)

Dial Accuracy: ±0.5% VR. Dial Repeatability: ±0.1% VR. Power Rating: 1.5 watts at 25° C. Operating Temperature: −65° C to +85° C max. Resistance Tolerance: ±5%. Size: ¾" dia. x 1" lg. FMS; 1 1/32" lg. overall.

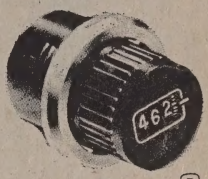


A

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
3600S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$21.79	$21.27	$19.30	$18.16	$17.17
	200K, 250K	32.19	31.42	28.51	26.83	25.37

10-TURN ⅞" DIA. DIGITAL READOUT KNOBPOT® MODEL 3610 (FIG. B)

Dial Accuracy: ±0.5% VR. Dial Repeatability: ±0.1% VR. Power Rating: 1.5 watts at 25° C. Operating Temperature: −25° C to +85° C max. Resistance Tolerance: ±5%. Size: ⅞" dia. x ¾" lg. FMS; 1 1/16" lg. overall.

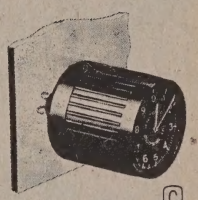


B

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
3610S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K	$22.26	$21.73	$19.72	$18.55	$17.54
	250K	30.65	29.91	27.15	25.54	24.15

10-TURN 1¼" DIA. CLOCK FACE READOUT KNOBPOT® MODEL 3640 (FIG. C)

Dial Accuracy: ±0.1% VR. Dial Repeatability: ±0.05% VR. Power Rating: 2.5 watts at 25° C. Operating Temperature: −65° C to +85° C max. Resistance Tolerance: ±3%. Size: 1¼" dia. x 1½" lg. FMS; 2 1/32" lg. overall.



C

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
3640S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 125K, 200K, 250K	$28.75	$26.62	$23.96	$22.74	$21.30
	500K	42.50	39.36	35.42	33.61	31.48

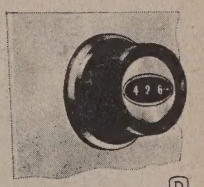
10-TURN 1¼" DIA. DIGITAL READOUT KNOBPOT® MODEL 3650 (FIG. D)

Dial Accuracy: ±0.1% VR. Dial Repeatability: ±0.05% VR. Power Rating: 2.5 watts at 25° C. Operating Temperature: −25° C to +85° C max. Resistance Tolerance: ±3%. Size: 1¼" dia. x 2 9/32" lg. FMS; 2 15/32" lg. overall.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
3650S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 200K, 250K	$32.78	$30.35	$27.32	$25.92	$24.28
	500K	45.14	41.80	37.62	35.70	33.44

10-TURN ⅞" DIA. KNOBPOT® DIGITAL DIAL MODEL H-357

Digital dial features large, easy-to-read numbers for minimum operator error. Combines long life, accuracy and low cost in an attractive design. Functional combination integrates with multi-turn precision potentiometers and other rotating devices. Typical applications include instrumentation, process control, data processing and communications. Recessed lens offers protection from breakage; applying brake will not cause change of dial setting. Readout Accuracy: 0.1%. Readout Range: 000 to 999. Readability: 1 part in 2,000 (10 turns). Temperature Range: −15° C to +85° C. Meets MIL-STD-202, Method 103 humidity. Shaft, 0.625"–0.842" FMS; bushing, 0.342" max. FMS. Size: ⅞" dia. x 1.45" d.



D

Bourns Model	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
H-357-1	Bezel—1.24" dia. x 0.15" d.	$7.25	$6.95	$6.50	$6.30	$5.95
H-357-2	Brake—1.41" dia. x 0.28" d.	7.25	6.95	6.50	6.30	5.95

KNOBPOT® READOUT POTENTIOMETER ACCESSORIES

Accessory colors meet Federal Standard 595.

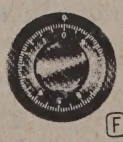
E

Bourns No. For Knobpot® Model 3600	Bourns No. For Knobpot® Model 3640	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
H-93	H-99	Snap-on color rings*	$0.35	$0.30	$0.25	$0.20
H-95	.....	Stainless steel skirt	1.50	1.25	1.00	.75
.....	H-98		3.77	3.43	3.10	2.92
H-103	H-97	Plastic slip-over friction brake	1.25	1.07	.97	.90
.....	H-105	Flat face recess mounting bracket	2.19	1.99	1.80	1.70
H-107	.....		2.73	2.48	2.25	2.15
.....	H-106	Beveled face recess mounting bracket	2.61	2.38	2.15	2.05
H-108	.....		2.49	2.26	2.05	1.95
H-361		Removal tool for Model 3610	No Charge when Ordered with Model 3610			

*Specify color: -1, red; -2, yellow; -3, blue; -4, green; -5, white.

TURNS-COUNTING DIALS

H-490 Series (Fig. F)—1" dia.; for use with precision potentiometers or other rotating devices up to 30 turns. Readability of 1 part in 1000 for ten turns.
H-510 Series (Fig. G)—1⅜" dia.; for use with precision potentiometers or other rotating devices up to 10 turns. Readability equal to larger 1 13/16" dia. dials; excellent number definition in two-thirds the panel space



F

G

Bourns Model	Finish	Shaft Dia.	Bushing Size	Brake	Net Each, Lots of 1-4	5-9	10-24	25-99	100-249	250-499
H-491-1*	Clear	3/32"	¼"-32NEF-2A	No	$10.65	$9.05	$8.52	$7.99	$7.46	$6.92
H-492-1*	Clear	3/32"	¼"-32NEF-2A	Yes	10.65	9.05	8.52	7.99	7.46	6.92
H-493-1*	Black	3/32"	¼"-32NEF-2A	No	11.50	9.78	9.20	8.63	8.05	7.48
H-494-1*	Black	3/32"	¼"-32NEF-2A	Yes	11.50	9.78	9.20	8.63	8.05	7.48
H-491-3	Clear	¼"	⅜"-32NEF-2A	No	10.65	9.05	8.52	7.99	7.46	6.92
H-492-3	Clear	¼"	⅜"-32NEF-2A	Yes	10.65	9.05	8.52	7.99	7.46	6.92
H-493-3	Black	¼"	⅜"-32NEF-2A	No	11.50	9.78	9.20	8.63	8.05	7.48
H-494-3	Black	¼"	⅜"-32NEF-2A	Yes	11.50	9.78	9.20	8.63	8.05	7.48
H-510-1	Clear	⅛"	.....	Yes	10.00	8.50	8.00	7.50	7.00	6.50
H-510-2	Clear	¼"	.....	Yes	10.00	8.50	8.00	7.50	7.00	6.50

*Available with ⅛" shaft dia.; to order, substitute -2 for suffix -1 (H-491-2).

SINGLE-TURN VARIABLE RESISTORS

Model 3353P

Resistance change after solvent bath in Freon* TFE or Trichloroethane is less than 1%.

See beginning of Bourns listing for Part Numbering System.

*Registered DuPont trademark.

19/32" DIAMETER COMPOSITION MODEL 3353

Feature wide resistance range; screwdriver and thumbwheel adjustment; compatible with standard circuit board cleaning processes. Power Rating: ⅓ watt at 60° C ambient. Resistance Tolerance: ±20% thru 1 meg; ±30% 2.5 megs and up. Operating Temperature: 0° C to +100° C. Humidity: Less than ±12.5% change in total resistance after 24 hours at 95% relative humidity, 40° C. Size: 19/32" dia. x 3/16" thk. (**P**); 9/32" thk. (**W**).

Model 3353W

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-49	50-99	100-249	250-499
3353	P	500, 1K, 2.5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 megs, 5 megs	$0.51	$0.47	$0.37	$0.31
	W					

3/8" DIAMETER CERMET MODEL 3359

Features infinite resolution, cermet element; easily adjusted with any tool; low TC. Power Rating: ½ watt at 70° C ambient; ¾ watt at 40° C ambient. Resistance Tolerance: ±20%. Operating Temperature: −65° C to +125° C. Humidity: Less than 1% change in total resistance after 500 hours at 95% relative humidity, 40° C. Size: 0.375" dia. x 0.288" thk. (**P**); 0.236" thk. (**W**).

Model 3359P

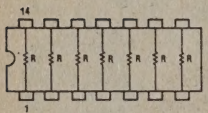
Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3359	P	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$1.05	$0.94	$0.83	$0.77	$0.72	$0.66
	W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	1.08	.97	.86	.79	.74	.68

THICK FILM RESISTOR NETWORKS

Model 3359W

The following resistor networks feature reduced PC board space; compatibility with automatic insertion equipment; uniform performance characteristics and compatability with IC logic circuit environments. Molded epoxy body (Model 4308R-001, ceramic sandwich) with tin plated copper alloy leads. Leads solderability meets requirements of MIL-STD-202E, Method 208 and MIL-STD-88, Method 2003. Resistance Tolerance: ±2%. Operating Temperature Range: −55° C to +125° C. Resistance TC: ±100 ppm/° C max. at −55° C to +125° C. Networks with modified schematics, other resistance tolerances and resistance ranges are available for special applications. Complete data and pricing on request.

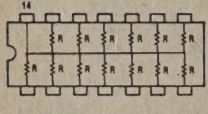
14-PIN DIP MODEL 4114R-001



Model 4114R-001

Standard 14-pin DIP packaged network with a configuration of 7 isolated thick film resistors of equal value. Typical applications include power gate pull-up, impedance balancing, current limiting, line termination and ECL output pull-down. Power Rating at 25° C: 2.0 W, total package; 0.25 W, single resistor. Size: 0.76" w. x 0.25" d. x 0.350" h. max. Weight, 1.3 grams.

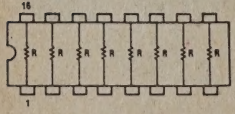
14-PIN DIP MODEL 4114R-002



Model 4114R-002

Standard 14-pin DIP packaged network with a configuration of 13 thick film resistors of equal value with pin 14 common. Typical applications include open collector, parallel and wired-OR pull-up, TTL input pull-down, MOS memory pull-up and pull-down, unused gate and power driver pull-up. Power Rating at 25° C: 2.0 W, total package; 0.125 W, single resistor. Size: 0.76" w. x 0.25" d. x 0.350" h. max. Weight, 1.3 grams.

16-PIN DIP MODEL 4116R-001

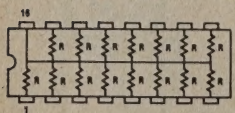


Model 4116R-001

Standard 16-pin DIP packaged network with a configuration of 8 isolated thick film resistors of equal value. Typical applications include power gate pull-up, impedance balancing, current limiting, line termination and ECL output pull-down. Power Rating at 25° C: 2.25 W, total package; 0.25 W, single resistor. Size: 0.86" w. x 0.25" d. x 0.350" h. max. Weight, 1.5 grams.

16-PIN DIP MODEL 4116R-002

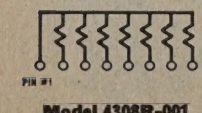
Standard 16-pin DIP packaged network with a configuration of 15 thick film resistors of equal value with pin 16 common. Typical applications include open collector, parallel and wired-OR pull-up, TTL input pull-down, MOS memory pull-up and pull-down, unused gate and power driver pull-up. Power Rating at 25° C: 2.25 W, total package; 0.125 W, single resistor. Size: 0.86" w. x 0.25" d. x 0.350" h. max. Weight, 1.5 grams.



Model 4116R-002

8-PIN SINGLE INLINE MODEL 4308R-001

Standard 8-pin SIP packaged network with a configuration of 7 thick film resistors of equal value, pin 1 common. Typical applications include open collector, parallel and wired-OR pull-up, TTL input pull-down, MOS memory pull-up and pull-down, unused gate pull-up and power driver pull-up. Power Rating at 25° C: 2.0 W, total package; 0.25 W, single resistor. Size: 0.780" w. x 0.080" d. x 0.345" h. max. Weight, 1.3 grams.



Model 4308R-001

STANDARD RESISTANCE RANGE

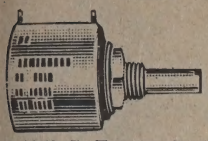
Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
33	82	220	560	1500	3900	10K	27K	68K	180K
39	100	270	680	1800	4700	12K	33K	82K	220K
47	120	330	820	2200	5600	15K	39K	100K	
56	150	390	1000	2700	6800	18K	47K	120K	
68	180	470	1200	3300	8200	22K	56K	150K	

QUANTITY PRICING

Bourns Model	Standard Resistance Range	Net Each, Lots of 1-99	100-499	500-999	Bourns Model	Standard Resistance Range	Net Each Lots, of 1-99	100-499	500-999
4114R-001	33 ohms thru 220K	$1.25	$0.99	$0.84	4116R-002	33 ohms thru 220K	$1.52	$1.20	$1.02
4114R-002		1.45	1.15	.97	4308R-001		.60	.48	.40
4116R-001		1.31	1.03	.88					

Clarostat Potentiometers, Decades and Dials

SMALL, 10-TURN 2-WATT POTENTIOMETER ONLY ¾" IN BODY LENGTH

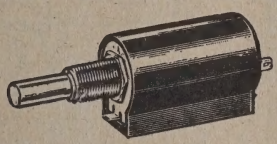


Series 73JA has brought the ten-turn potentiometer down in size, down in price and down in wear-outs. Only ¾" body length, priced less than $4.00 in quantity, and a rotational life of 500,000 cycles. **Resistance Range:** 100–100K ohms. **Resistance Tolerance:** ±5%. **Power Rating:** At 20° C, 2 watts. **Operating Temperature Range:** −55° C to +105° C. **Temperature Coefficient:** ±20 PPM/° C max. **End Resistance:** 0.25% or 1 ohm. **Noise During Adjustment (ENR):** 100 ohms, maximum. **Insulation Resistance:** 1000 megohms at 500 VDC. **Dielectric Strength:** 1000 V rms. **Actual Electrical Travel:** 3600°+10°−0°. **Linearity:** 0.25%, independent. **Mechanical Torque:** 1.5 oz.-in. maximum. **Stop Strength:** 50 oz.-in. minimum. To order, add resistance required to Clarostat No., example 73JA-**100.** See stock value, ohms, below.

Clarostat Number	Net Each, Lots of						
	1-9	10-24	25-49	50-99	100-249	250-499	500-999
73JA	$4.69	$4.52	$4.35	$4.01	$3.83	$3.69	$3.54

Stock Value, Ohms	Nominal Resolution	Stock Value, Ohms	Nominal Resolution
100	.055%	5000	.020%
200	.037%	10K	.017%
500	.030%	20K	.015%
1000	.025%	50K	.011%
2000	.021%	100K	.009%

SERIES 62JA TEN-TURN POTENTIOMETER



Opens new application areas for the advantages of multi-turn potentiometer design, including far greater resolution in trimming, better instrument control and settings for all types of electronic equipment. Resistance tolerance, ±5%. Functional output, linear. Absolute linearity, ±0.25%. Power dissipation at 25° C, 2 watts, derated to zero at 85° C. Dielectric strength, 1000 VAC. Electrical and mechanical rotation, 3600°, +10, −0. Maximum torque, 3 oz.-in. Stop strength, 50 oz.-in. Insulation resistance, 1000 megohms. Life, 100,000 shaft revolutions. Max. rotation speed, 60 rpm. Size, ⅞" dia. x 2½" overall. **$8.25**

Net Each, Lots of 1–9 ..... **$8.25**
Net Each, Lots of 10–24 ..... **$7.15**
Net Each, Lots of 25–99 ..... **6.60**
Net Each, Lots of 100–499 ..... **6.05**

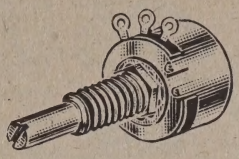
Stock Value, Ohms	Resolutions 100/Total Turns	Stock Value, Ohms	Resolutions 100/Total Turns
100*	.062%	5,000	.026%
200*	.048%	10,000	.024%
250*	.038%	20,000	.019%
500	.036%	25,000	.017%
1,000	.030%	30,000	.016%
2,000	.023%	50,000	.013%
2,500	.022%	100,000	.012%

*Absolute linearity, ±0.5%.

MODEL 250 RACK MOUNTED DECADE

Same as Model 240C except for rack mounting. Fits in standard 19" relay rack. **Size:** 19" w. x 13¼" d. x 7" h. Weight, 18½ lbs.
Model 250 Power Resistor Decade Box—Net Each **$173.25**

SERIES 381 1-WATT ⅝" DIA. POTENTIOMETERS



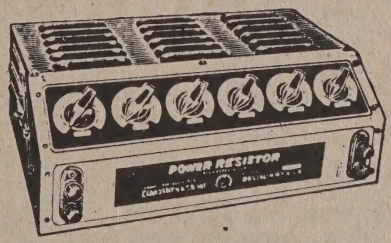
Clarostat "Quiet One" series, a new, low cost potentiometer with characteristics exceeding those of higher priced models. Features reliable, homogeneous, strain-free resistance element with 1% dynamic noise and 5% independent linearity. Mechanical parts precision machine-finished for smooth operation, long life. Manufactured to MIL-R-94 specifications. **Resistance Tolerance:** Linear, up to 500K ohms ±10%; above 500K ohms, ±20%. **Power Rating:** 1 watt max. continuous power rating for linear taper, but voltage not to exceed rating. Full rating at 70° C, derated linearly to zero watts at 120° C. Derate all non-linear tapers by multiplying wattage rating by 0.5. **Mechanical and Rotation:** 300° ±5° with switch. **Dynamic Noise:** Linear single controls maximum initial noise level 1% of total resistance. **Linearity:** ±5% independent. **Working Voltage:** 350 VDC across end terminals, power not to exceed rating. Models 381N have plain ¼" long bushing, ½" long shaft, screwdriver slotted. Models 381NS same, but equipped with attached SPST switch rated 1 amp at 125 VAC or DC. Models 381L have ⅜" shaft-locking bushing, 1/16" long shaft, screwdriver slotted. To order, add resistance required to Clarostat No., example: 381N-**100.** See Stock Values Table, below.

Clarostat Number	Shaft Length, Screwdriver Slotted	Bushing Length	Net Each, Lots of			
			1-9	10-49	50-99	100-249
381N	¾"	¼"	$2.93	$2.20	$1.88	$1.36
381NS	¾"	¼"	4.47	3.36	2.87	2.08
381L	7/16"	⅜"	3.15	2.35	2.02	1.46

TABLE OF STOCK VALUES

Ohms				
100	1000	10K	100K	1.0 meg
250	2500	25K	250K	2.5 megs
500	5000	50K	500K	5.0 megs

MODEL 240C PORTABLE DECADE

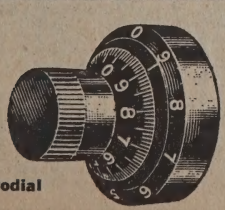


The Model 240C portable resistance decade allows the changing of resistance at a flip of a switch in a working circuit. Any ohms value can be obtained, from one ohm to 999,999 ohms, in steps of one ohm and at a maximum power rating of 225 watts, using a maximum of 1,000 volts DC or 660 volts AC. Dependable Clarostat "Greenohm" resistors are used throughout. These are inorganic-cement-coated, wire-wound power resistors. The resistors are mounted on rigid metal supports; a baffle plate separating the resistor bank from the switch assembly protects the latter against heat. Resistance changing switches are of the type that prevents a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Pointer knobs indicate at a glance the resistance value being used.

Resistance Tolerance: ±2.0% all decades except No. 1, ±5.0%. **Max. Current:** 5 amps, No. 1; 1.5 amps, No. 2; 0.5 amp, No. 3; 0.15 amp, No. 4; 0.05 amp, No. 5; 0.005 amp, No. 6.

In a heavy gauge metal case, finished in frosted gray wrinkle, with an etched black-and-aluminum front panel. Overall length, 13"; 8½" deep; 5¾" high. Weight, 11.5 lbs.
Model 240C Power Resistor Decade Box—Net **$121.05**

CLARODIALS—10-TURN CONCENTRIC SCALE DIALS



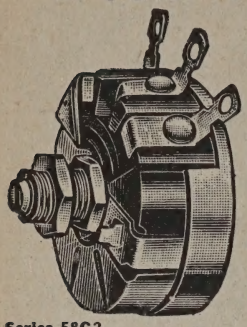
Calibrated dials designed for multi-turn potentiometers up to ten turns or other rotary devices. Requires only one inch of panel space. Knob attaches directly to the shaft, and the body of the dial is mounted rigidly to the panel. Therefore, accurate readings with a ratio of 1000 to one for 10 turns are provided with zero backlash and no reading error. Made of anodized aluminum. Mounting requirements: ¼" shaft and ⅜"-32 NEF-2A bushing. Model 411 is black, has no lock. Model 412 is black, has lock. Model 461 is clear, has no lock. Model 462 is clear, has lock.

Clarostat No.	Net Each, Lots of			
	1-9	10-24	25-99	100-249
411	$7.75	$7.30	$6.95	$6.55
412	8.95	8.50	8.05	7.60
461	8.25	7.80	7.40	7.00
462	9.45	8.95	8.50	8.00

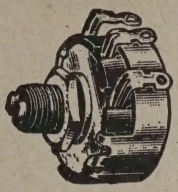
Clarostat Controls & Potentiometers

CLAROSTAT CONTROLS

"C LINE®" WIRE-WOUND INDUSTRIAL CONTROLS



Series 58C2



Series 43C2

Clarostat "C Line" controls are designed primarily for industrial applications. They feature moisture and dust-proof construction, corrosion proof finish and locking or standard bushing. Suffix C1 indicates 1⅜" round shaft beyond bushing and ⅜" long bushing with ⅜-32-NEF-2 thread. Suffix C2 indicates ¼" screwdriver slotted shaft, ½" split locking bushing. One nickel plated hex mounting nut and internal lock washer supplied with all units. All C2 units supplied with a nickel plated machined hex locking nut Switches, ohmages not listed, tapers not listed, bushings and shaft lengths not listed, and dual combinations are also available on special order. (Prices and delivery information available on request.)

SERIES 43C1 AND 43C2

2-WATT CONTROLS

Smallest 2-watt wire-wound control available up to 50K ohms. Tolerance ±5%. Independent Linearity ±2%.

Ohms	Net Each 43C1	Net Each 43C2	Ohms	Net Each 43C1	Net Each 43C2
5	$2.60	$2.89	1000	$2.60	$2.89
10	2.60	2.89	1500	2.60	2.89
20	2.60	2.89	2000	2.60	2.89
25	2.60	2.89	2500	2.60	2.89
30	2.60	2.89	3000	2.60	2.89
40	2.60	2.89	4000	2.60	2.89
50	2.60	2.89	5000	2.60	2.89
75	2.60	2.89	7500	2.60	2.89
100	2.60	2.89	10K	2.60	2.89
150	2.60	2.89	15K	2.95	3.25
200	2.60	2.89	20K	2.95	3.25
300	2.60	2.89	25K	2.95	3.25
400	2.60	2.89	30K	3.47	3.82
500	2.60	2.89	40K	3.47	3.82
750	2.60	2.89	50K	3.47	3.82

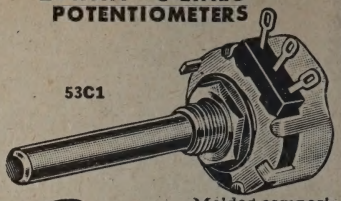
SERIES 58C1 AND 58C2

3-WATT CONTROLS

Tolerance ±5%. Linearity ±1%.

Ohms	Net Each 58C1	Net Each 58C2	Ohms	Net Each 58C1	Net Each 58C2
1	$2.60	$2.89	500	$2.60	$2.89
2	2.60	2.89	750	2.60	2.89
4	2.60	2.89	1000	2.60	2.89
6	2.60	2.89	1500	2.60	2.89
10	2.60	2.89	2000	2.60	2.89
15	2.60	2.89	2500	2.60	2.89
20	2.60	2.89	3000	2.60	2.89
25	2.60	2.89	5000	2.60	2.89
30	2.60	2.89	7500	2.60	2.89
40	2.60	2.89	10K	2.60	2.89
50	2.60	2.89	15K	2.95	3.25
60	2.60	2.89	20K	2.95	3.25
75	2.60	2.89	25K	2.95	3.25
100	2.60	2.89	30K	3.47	3.82
200	2.60	2.89	40K	3.47	3.82
300	2.60	2.89	50K	3.47	3.82
400	2.60	2.89			

2-WATT "C-LINE®" POTENTIOMETERS



53C1

53C2

Molded composition element type totally sealed against moisture. High quality resistance device has high stability under extreme conditions. Use for critical applications such as test equipment, military, computers, servo mechanisms, etc. One-piece wiper assembly; carbon to carbon contact for low noise level; stainless steel shaft; gold plated terminals. Electrical tolerances are ±10% for values up to 1 megohm; ±20%, 1 meg. and above. "S" taper supplied. **Size:** 1⅛" dia. x ⅝" deep.

Clarostat Model 53C1, Taper S— $2.15
Specify resistance value. Net Each

Clarostat Model 53C2, Taper S— $2.48
Specify resistance. Net Each.....

Ohms	Ohms	Ohms
50	7.5K	500K
100	10K	750K
150	15K	1 meg
250	20K	1.5 meg
350	25K	2 meg
500	35K	2.5 meg
750	50K	3 meg
1000	75K	3.5 meg
1500	100K	4 meg
2000	150K	5 meg
2500	200K	7.5 meg
3500	250K	10 meg
5000	350K	

MILITARY WIRE-WOUND AND CARBON POTENTIOMETERS

RV4LAYSA, 53C2

MIL-R-19A VARIABLE WIRE-WOUND POTENTIOMETERS

Certified for MIL-R-19A and available in common shaft lengths and values. Linear taper. **Tolerance:** ±10%. **Ratings:** RA10, one watt. RA20, two watts. RA30, four watts. **Bushing and Shaft:** Specify by letters (i.e. RA20**NASD**351A). RA10: NASD, ⅜" lg. x ¼" dia.; NASL, ⅝" lg. x ¼" dia.; LASM, 1⅛" lg. x ¼" dia., lock bushing. RA10, 20: LASD, ⅜" lg. x ¼" dia., lock bushing. RA20, 30: NASA, ½" lg. x ¼" dia.; NASD, ⅜" lg. x ¼" dia.; LASB, ⅝" lg. x ¼" dia., lock bushing. All have slotted shafts.

Ohms ±10%	No. RA10()-, RA20()-, RA30()-	Ohms ±10%	No. RA10()-, RA20()-, RA30()-
3	3R0A*	350	351A
6	6R0A*	500	501A
8	8R0A*	750	751A
10	100A*	1000	102A
15	150A	1500	152A
20	200A*	2000	202A
25	250A	2500	252A
35	350A*	3500	352A*
50	500A	5000	502A*
75	750A	7500	752A*
100	101A	10K	103A*
150	151A	15K	153A*
200	201A	20K	203A†
250	251A	25K	253A†

*Not available in one-watt type. †Not available in one- or two-watt types.

MIL-R-94B VARIABLE 2-WATT CARBON POTENTIOMETERS

Certified for MIL-R-94B and available in common shaft lengths and values. Linear taper. **Tolerance:** ±10% unless otherwise specified. **Rating:** 2 watts. **Bushing and Shaft:** Specify by letters (example: RV4**NAYSD**101A, or 53C3-100-S): NAYSD (53C3) for standard bushing with ⅞" l. x ¼" dia. slotted shaft; LAYSA (53C2) for lock bushing and ⅝" l. x ¼" dia. slotted shaft. **Note:** Where no military number is shown, no MIL value is available; and, only the commercial version may be ordered (53C). All others are dual-marked.

Resis., Ohms ±10%	MIL No. RV4()-	Claro. No. 53C()-	Resis. Ohms ±10%	MIL No. RV4()-	Claro. No. 53C()-	Resis., Ohms ±10%	MIL No. RV4()-	Claro. No. 53C()-
50	500A	50-S	7500	752A	7500-S	500K	504A	500K-S
100	101A	100-S	10K	103A	10K-S	750K†	754B	750K-S
150	151A	150-S	15K	153A	15K-S	1 meg†	105B	1 Meg-S
250	251A	250-S	20K	.....	20K-S	1.5 meg†	155B	1.5 Meg-S
350	351A	350-S	25K	253A	25K-S	2 meg†	205B	2 Meg-S
500	501A	500-S	35K	353A	35K-S	2.5 meg†	255B	2.5 Meg-S
750	751A	750-S	50K	503A	50K-S	3 meg†	.....	3 Meg-S
1000	102A	1000-S	75K	753A	75K-S	3.5 meg†	355B	3.5 Meg-S
1500	152A	1500-S	100K	104A	100K-S	4 meg†	.....	4 Meg-S
2000	.....	2000-S	150K	154A	150K-S	5 meg†	505B	5 Meg-S
2500	252A	2500-S	200K	.....	200K-S	10 meg†	.....	10 Meg-S
3500	352A	3500-S	250K	254A	250K-S			
5000	502A	5000-S	350K	354A	350K-S			

MIL-R-94B HOT MOLDED ½-WATT CARBON POTENTIOMETERS

Rated 0.5 watt at 70° C, derated to zero at 120° C. Available with standard (RV6NAYSD) or locking (RV6LAYS**A**) bushing. Dia., ½"; 350 WVDC.

Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-
100	101A	2,500	252A	25,000	253A	250,000	254A
250	251A	5,000	502A	50,000	503A	500,000	504A
500	501A	10,000	103A	100,000	104A	1 meg	105A
1000	102A	15,000	153A	150,000	154A		

INDUSTRIAL NET PRICES

MIL or (Clarostat) Type*	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
RV4NAYSD- or (53C3-)	$1.95	$1.60	$1.60	$1.50	$1.25	$0.92
RV4LAYSA- or (53C2-)	2.25	1.90	1.90	1.58	1.33	.99
RV6NAYSD-	5.00	3.65	3.65	2.19	1.90	1.61
RV6LAYSA	5.00	3.88	3.88	2.33	2.02	1.71
RA20NAS( )-	3.00	2.01	2.01	1.41	1.16	.88
RA20LAS( )-	3.00	2.09	2.09	1.49	1.24	.95
RA30NAS( )-	3.00	2.19	2.19	1.59	1.34	1.06
RA30LASB-	3.00	2.27	2.27	1.67	1.42	1.14
RA10NAS( )-	6.28	4.76	4.13	3.49	3.05	2.83*
RA10LAS( )-	6.50	4.94	4.27	3.60	3.55	2.92*

*Ordering number must show bushing and shaft desired (as described above) and appropriate suffix to indicate ohms. Example: RA20**NASD3R0A.** †Tol., ±20%. *Larger quantity pricing on request.

Clarostat Controls and Decades

COMPOSITION-ELEMENT

Tolerances are within RETMA standards; overall resistance tolerance ±20% through 100K ohm values and ±30% for all values above 100K ohms.

SERIES A47 ½-WATT CONTROLS

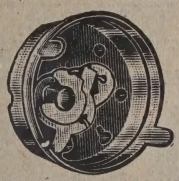
Available with factory assembled shafts at no extra charge. See general description above. Catalog Number indicates the resistance in ohms and †Curves below. Net Each..... **$1.36**

No. A47-	No. A47-	No. A47-	No. A47-
500-S	15K-S	75K-V	1 Meg-Z
750-S	15K-V	100K-S	1.5 Meg-S
1000-S	15K-W	100K-Z	2 Meg-S
1500-S	20K-S	150K-S	2 Meg-Z
2000-S	25K-S	200K-S	2.5 Meg-S
2500-S	25K-W	250K-S	3 Meg-S
3000-S	25K-V	250K-Z	3 Meg-Z
4000-S	30K-S	300K-S	4 Meg-S
5000-S	40K-S	500K-S	4 Meg-Z
7500-S	50K-S	500K-Z	5 Meg-S
10K-S	50K-W	750K-S	5 Meg-Z
10K-V	50K-Z	750K-Z	7.5 Meg-S
10K-W	75K-S	1 Meg-S	10 Meg-S
10K-Z	.....	.....	.....

†CURVES

S—Straight or uniform res. change with rotation. **U**—Left-hand 1% res. at 33⅓% of CW rotation. **V**—Right-hand 20% res. at 50% of CCW rotation. **W**—Left-hand 20% res. at 50% of CW rotation. **Z**—Left-hand (Log. audio) 10% res. at 50% of CW rotation.

TYPE "SWE" SWITCHES FOR "AD-A-SWITCH®" CONTROLS



A line of switches for installation on A47 and A47F controls. UL approved.

Clarostat No. SWE-12—SPST switch, 5 amp, 125 VAC. Net Each..... **$0.64**
Clarostat No. SWE-13—SPST switch, 15 amp, 10 VDC. Net Each..... **$0.98**
Clarostat No. SWE-20—DPST switch, 3 amp, 125 VAC. Net Each..... **$0.72**
Clarostat No. SWE-21—Modified DPST switch. One pole on, one off, or with Jumper SPDT. 3 amperes, 125 volts AC or DC. Net Each..... **$0.72**
Clarostat No. SWE-23—Modified DPST switch. One pole on, one off or with Jumper SPDT. 15 amp, 10 VDC. Net Ea... **$0.98**

"PICK-A-SHAFT®" SHAFTS

Net Each..... **$0.43**

Claro. No.	Description
SS-⅜	(Male) takes female fitting
RS-2	Round shaft, 2" long
RS-¼	Round, slotted ¼" dia., 3" long
KSS-3	Knurled, split shaft, 3" long
RS-5	Round shaft, 5" long
FS-5	Flatted shaft, 5" long
KSS-5	Knurled, split shaft, 5" long
FS-3	Flatted shaft, 3" long
RS-3	Round shaft, 3" long
DFS-½	Dble. flatted, Philco type ½" l.
FKS-¼	Fine knurled slotted, ¼" long
FKS-½	Fine knurled slotted, ½" long
KFS-3	Knurled flatted shaft, 3" long

SERIES A43 AND A43S 2-WATT WIRE-WOUND CONTROLS

A43 Controls are without switches. A43S Controls have factory attached SPST switches. Available with factory assembled shafts at no extra charge by omitting prefix "A" from number and designating shaft desired. Tolerance, ±10%.
Any Model A43—Without switch..**$1.58**
Any Model A43S—With switch... **2.39**

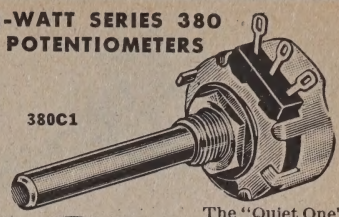
Ohms	No. A43- or A43S-	Ohms	No. A43- or A43S-
5	5	400	400
10	10	500	500
20	20	750	750
25	25	1000	1000
30	30	1500	1500
40	40	2000	2000
50	50	2500	2500
75	75	3000	3000
100	100	4000	4000
150	150	5000	5000
200	200	7500	7500
300	300	10K	10K

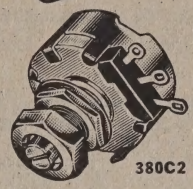
SERIES A58 WIRE-WOUND CONTROLS

Wire-wound 3-watt controls that will take any of the 13 Pick-A-Shafts. Overall resistance tolerance ±10% for all values. All controls are linear. Available with factory assembled shafts at no extra cost; just order by dropping the prefix letter "A" from the number and specify the type of shaft desired. Prices and information on request.

Resistance Ohms	Clarostat Number	Net Each
1	A58-1	$1.58
2	A58-2	1.58
4	A58-4	1.58
6	A58-6	1.58
10	A58-10	1.58
15	A58-15	1.58
20	A58-20	1.58
25	A58-25	1.58
30	A58-30	1.58
40	A58-40	1.58
50	A58-50	1.58
60	A58-60	1.58
75	A58-75	1.58
100	A58-100	1.58
200	A58-200	1.58
250	A58-250	1.58
300	A58-300	1.58
400	A58-400	1.58
500	A58-500	1.58
750	A58-750	1.58
1000	A58-1000	1.58
1500	A58-1500	1.58
2000	A58-2000	1.58
2250	A58-2250	1.58
2500	A58-2500	1.58
3000	A58-3000	1.58
4000	A58-4000	1.58
5000	A58-5000	1.58
7500	A58-7500	1.58
10K	A58-10K	1.58
15K	A58-15K	1.96
20K	A58-20K	1.96
25K	A58-25K	1.96
30K	A58-30K	2.47
40K	A58-40K	2.47
50K	A58-50K	2.47

2-WATT SERIES 380 POTENTIOMETERS





The "Quiet One" Series 380 exceeds MIL-R-94 specifications. Manufactured in a controlled environment, features stainless steel shafts. 1% dynamic noise and 5% independent linearity. Electrical tolerances are ±10% for values up to 1 megohm; ±20%, 1 meg and above. Linear taper. Specify resistance per table, below. **Size:** 1 3/32" dia. max. x ⅜" d.

Clarostat Model 380C1, Taper S—2" round shaft FMS; ⅜" long bushing with ⅜-32-NEF-2A thread. Net Each..... **$2.15**
Clarostat Model 380C2, Taper S—5/8" screwdriver slotted shaft FMS; with ½" split locking bushing. Net Each.. **$2.48**
Clarostat Model 380C3, Taper S—⅞" screwdriver slotted shaft FMS; ⅜" long bushing with ⅜-32-NEF-2A thread. Net Each..... **$2.15**

Ohms	Ohms	Ohms	Ohms
100	2500	50K	1 meg
150	3500	75K	1.5 meg
250	5000	100K	2 meg
350	7500	150K	2.5 meg
500	10K	200K	3 meg
750	15K	250K	3.5 meg
1000	20K	350K	4 meg
1500	25K	500K	5 meg
2000	35K	750K	

"HUMDINGER®" 2-WATT, WIRE-WOUND CONTROLS

SERIES U39 "HUMDINGER" CONTROLS

The design of terminals and mounting tabs meets these requirements: Above chassis mounting, as a potentiometer or rheostat; printed circuit mounting, as a potentiometer or rheostat. A fiber adapter plate is furnished with each control. Clarostat number indicates the U39 series followed by the total resistance ohms and, in some cases, the bias resistance. Tolerance, ±20%. Net Each..... **$0.76**

SERIES U39

Clarostat Number			
U39-1.5	U39-150	U39-700	U39-2000-100
U39-5	U39-175	U39-700-200	U39-3000
U39-8	U39-200	U39-800	U39-3000-700
U39-15	U39-300	U39-800-50	U39-4000
U39-50	U39-500	U39-1000	U39-4000-350
U39-75	U39-500-100	U39-1000-100	U39-4000-1000
U39-100	U39-600	U39-1500	U39-5000
U39-125	U39-650	U39-2000	

SERIES 39

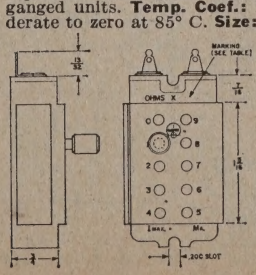
SERIES 39 "HUMDINGER" CONTROLS

Control in housing is mounted by rivet, screw or other means to chassis. Clarostat number indicates the 39 series followed by the total resistance ohms. Tolerance, ±20%. Net Each..... **$0.64**

Clarostat Number			
39-8	39-200	39-1500	39-4000
39-50	39-500	39-2000	39-5000
39-100	39-1000	39-3000	

MINIATURE DECADE BOXES

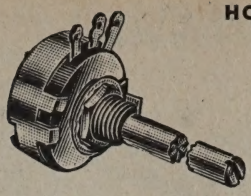
Each unit consists of a network of five ±1% metal film resistors. Desired value is selected by inserting banana plug in hole adjacent to desired decade digit. Housing is interlocking construction (tongue and groove) interconnecting up to 7 units for a complete range .1 to 999,999.9 ohms in .1 ohm steps. External connections by solder lug and banana plug receptacles; shorting bar (supplied) or dual shorting banana plug for connections between ganged units. **Temp. Coef.:** Less than 100 ppm. **Temp.:** 40° C max. at rated current; derate to zero at 85° C. **Size:** 1½" w. x ⅞" d. x 2¾" h., body. Wt., 2 oz. per unit.



Clarostat Number	Total Resis., Ohms	Resis./ Step, Ohms	Accuracy *	Max. Current	Net Each
260-1†	0.9	0.1	±5%	1 amp	$ 4.57
260-2†	9	1.0	±1%	350 mA	4.57
260-3	90	10	±1%	100 mA	4.57
260-4	900	100	±1%	35 mA	4.57
260-5	9K	1K	±1%	10 mA	4.57
260-6	90K	10K	±1%	3.5 mA	4.57
260-7	900K	100K	±1%	1 mA	4.57
Set of 1 each of above.....					31.77
6 each of above, with rack.....					191.62

*Contact resis., .005-.03 ohms; .01 ohm typical. †Resistors are wire-wound.

HOT-MOLDED CARBON POTENTIOMETERS



Offer greatly increased high voltage stability due to wide clearance between bushing and collector track. Free from contamination of dirt due to elevated resistance track. Exceptionally long noise-free operation.

MIL-R-94C STYLE RV4
2-WATT COMPOSITION MODEL 12

Completely enclosed construction permits encapsulation or potting without affecting operation. Element rating, 2.25 watts at 70° C, 500 V. Tolerance, ±10%, except as noted. Mechanical rotation, 312° ±3°. Shaft, ¼" dia. full round slotted. Bushing, nickel-plated brass, ⅜"-32 NEF-2A thd. Size, 1³⁄₃₂" dia. x ³⁷⁄₆₄" d. **HML Series:** ⅝" long from mounting surface; ½" locking-type bushing. **HMP:** ⅞" long from mounting surface; ⅜" bushing. **HMS:** 2½" long from mounting surface; ⅜" bushing, mounting nut and lock-washer included. **Taper:** Linear. **Certified test data and lot identification available upon request.**

HML SERIES

CRL No. HML-	MIL No. RV4LAYSA-	Resis., Ohms	CRL No. HML-	MIL No. RV4LAYSA-	Resis., Ohms
50	500A	50	35K	353A	35K
100	101A	100	50K	503A	50K
150	151A	150	75K	753A	75K
250	251A	250	100K	104A	100K
350	351A	350	150K	154A	150K
500	501A	500	250K	254A	250K
750	751A	750	350K	354A	350K
1000	102A	1000	500K	504A	500K
1500	152A	1500	750K*	754B	750K
2500	252A	2500	1 meg*	105B	1 meg
3500	352A	3500	1.5 meg*	155B	1.5meg
5000	502A	5000	2 meg*	205B	2 meg
7500	752A	7500	2.5 meg*	255B	2.5meg
10K	103A	10K	3.5 meg*	355B	3.5meg
15K	153A	15K	5 meg*	505B	5 meg
25K	253A	25K			

HMP SERIES

CRL No. HMP-	MIL No. RV4NAYSD-	Resis., Ohms	CRL No. HMP-	MIL No. RV4NAYSD-	Resis., Ohms
50	500A	50	35K	353A	35K
100	101A	100	50K	503A	50K
150	151A	150	75K	753A	75K
250	251A	250	100K	104A	100K
350	351A	350	150K	154A	150K
500	501A	500	250K	254A	250K
750	751A	750	350K	354A	350K
1000	102A	1000	500K	504A	500K
1500	152A	1500	750K*	754B	750K
2500	252A	2500	1 meg*	105B	1 meg
3500	352A	3500	1.5 meg*	155B	1.5meg
5000	502A	5000	2 meg*	205B	2 meg
7500	752A	7500	2.5 meg*	255B	2.5meg
10K	103A	10K	3.5 meg*	355B	3.5meg
15K	153A	15K	5 meg*	505B	5 meg
25K	253A	25K			

HMS SERIES

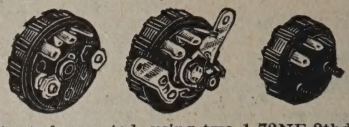
CRL No. HMS-	MIL No. RV4NAYSK-	Resis., Ohms	CRL No. HMS-	MIL No. RV4NAYSK-	Resis., Ohms
50	500A	50	35K	353A	35K
100	101A	100	50K	503A	50K
150	151A	150	75K	753A	75K
250	251A	250	100K	104A	100K
350	351A	350	150K	154A	150K
500	501A	500	250K	254A	250K
750	751A	750	350K	354A	350K
1000	102A	1000	500K	504A	500K
1500	152A	1500	750K*	754B	750K
2500	252A	2500	1 meg*	105B	1 meg
3500	352A	3500	1.5 meg*	155B	1.5meg
5000	502A	5000	2 meg*	205B	2 meg
7500	752A	7500	2.5 meg*	255B	2.5meg
10K	103A	10K	3.5 meg*	355B	3.5meg
15K	153A	15K	5 meg*	505B	5 meg
25K	253A	25K			

INDUSTRIAL NET EACH PRICES

CRL Type, All Values	1-24	25-49	50-99	100/Pkg. 100-Up
HML Potentiometers	$2.68	$2.48	$2.30	$1.53
HMP Potentiometers	2.13	1.94	1.84	1.28
HMS Potentiometers	2.20	2.03	1.89	1.39

*Tolerance ±20%. †C1—Linear, uniform resistance change from either end; C2—Semi-log (audio) 10% center.

1/10-WATT CONTROLS



Designed for transistorized hearing aids, miniature radios and similar applications. **Model B16 Miniature:** Can be reduced to ⅝" dia. by removing knob; with knob is ²³⁄₆₄". Plain type is stud mounted, using two 1-72NF-2thd. x .140" studs on .427" centers. Switch type is bracket mounted. **Tolerance:** ±20% except Types B16-124, B16-127, B16-128, B16-224, and B16-228, ±30%.

MINIATURE TYPE B16 SERIES

CRL No. Plain	CRL No. Switch	Max. Ohms	† Taper	CRL No. Plain	CRL No. Switch	Max. Ohms	† Taper
B16-107	.....	500	C1	B16-119	.....	50K	C1
B16-109	.....	1000	C1	B16-121	.....	100K	C1
B16-111	.....	2500	C1	B16-123	.....	250K	C1
B16-112	B16-212	2500	C2	B16-118	B16-218	½ meg	C2
B16-113	.....	5000	C1	B16-120	B16-220	1 meg	C2
B16-114	B16-214	5000	C2	B16-122	B16-222	2 megs	C2
B16-115	.....	10000	C1	B16-124	B16-224	3 megs	C2
B16-116	B16-216	10000	C2	B16-127	.....	5 megs	C1
B16-117	B16-217	25000	C2	B16-128	B16-228	5 megs	C2
B16-125	.....	25000	C1				

INDUSTRIAL NET EACH PRICES

All Models Type	1-24	25-49	50-99	100/Pkg. 100-Up
B16-107 thru -128	$2.08	$1.95	$1.67	$1.28
B16-212 thru -228	3.06	2.82	2.44	1.84

SERIES T, TH 1/5-WATT COMPOSITION CONTROLS

T Vert. Mount TH Horiz. Mount

For trimmer use in test, radio and communications equipment; also for potentiometer use since life is over 25,000 cycles. Screwdriver adjust from either side as well as knob edge adjustment. Tol. ±20%. C1 linear taper. Effective and mechanical rotation, 260°. Dia. .696". Series T perpendicular plug-in mt.; TH, parallel stud.

Ohms	CRL No. Vert. Mt.	CRL No. Horiz. Mt.	Ohms	CRL No. Vert. Mt.	CRL No. Horiz. Mt.
100	T-100	.....	15K	T-15K	.....
200	T-200	.....	20K	T-20K	.....
300	T-300	.....	25K	T-25K	TH-25K
500	T-500	.....	50K	T-50K	TH-50K
750	T-750	TH-750	100K	T-100K	TH-100K
1000	T-1000	.....	250K	T-250K	TH-250K
1500	T-1500	.....	500K	T-500K	TH-500K
2500	T-2500	TH-2500	1 Meg	T-1 MEG	TH-1 MEG
5000	T-5000	TH-5000	2 Meg	T-2 MEG	.....
7500	T-7500	.....	4 Meg	T-4 MEG	.....
10K	T-10K	TH-10K	5 Meg	T-5 MEG	.....

CRL Series T, TH Miniature Composition Controls—Net Ea., Lots: 1–24, **$1.25**; 25–49, **$1.15**; 50–99, **$1.07**; 100/Pkg. 100–Up, **$0.88. TH Series**; Lots: 1–24, **$1.43**; 25–49, **$1.32**; 50–99, **$1.23**; 100/Pkg. 100–Up, **$1.01.**

OUR STOCKS ARE COMPLETE

AND UP TO DATE.

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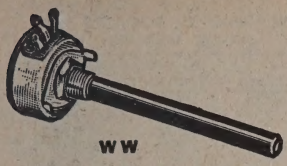
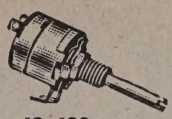
INFORMATION AND PRICING

ON ALL NEW

OR UNLISTED ITEMS.


WW

WN


JC, JCS

JMP, JWP

JML, JWL

5-WATT WIRE-WOUND CONTROLS

Packs 5-watt capacity into a 2-watt size unit; linear taper, 1⅝" diam. x 1⅛" deep. Model WW has full round aluminum shaft ¼" dia. x 3" long. Model WN has fingertip knurled, slotted shaft ¼" diam. x ¾" long. Breakdown, 900 v. AC rms to ground. Specify by using WN or WW as prefix. Shipping Weight, 4 oz.

Ohms	CRL No. WW- or WN-	Ohms	CRL No. WW- or WN-	Ohms	CRL No. WW- or WN-	Ohms	CRL No. WW- or WN-
1	010	25	250	400	401	7500	752
2	020	30	300	500	501	10K	103
3	030	40	400	750	751	15K	153
4	040	50	500	1000	102	20K	203
5	050	60	600	1500	152	25K	253
6	060	75	750	2000	202	30K	303
8	080	100	101	2500	252	40K	403
10	100	200	201	3000	302	50K	503
15	150	250	251	4000	402	75K	753
20	200	300	301	5000	502	100K	104

WW-SERIES NET PRICES

Values	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
1–7500 ohms	$1.85	$1.71	$1.57	$1.19
10K, 15K, 20K, 25K, 30K	2.25	2.07	1.95	1.47
40K, 50K	2.38	2.19	2.04	1.54
75K, 100K	2.82	2.59	2.41	1.77

WN-SERIES NET PRICES

1–7500 ohms	$1.87	$1.74	$1.60	$1.19
10K, 15K, 20K, 25K, 30K	2.27	2.09	1.94	1.45
40K, 50K	2.54	2.34	2.18	1.64
75K, 100K	2.80	2.59	2.41	1.79

SERIES JC AND JCS ¼-WATT MINIATURE COMPOSITION POTENTIOMETERS

Ideal for communications, instruments, entertainment and miniature commercial use. Composition resistance element on phenolic base. Rated ¼ watt at 40° C; 250 VDC max. Dielectric strength, 900 V rms. Linear taper, C1. Type JCS comes assembled with SPST switch rated 1 amp at 125 VAC/DC; 4 amps at 20 VDC. Size: Type JC, 43/64" dia. x 5/16" d.; Type JCS, 43/64" dia. x 5/16" d. (excluding switch terminals). Round steel shaft with screwdriver slot, 1/8" dia. x 7/8" lg. Bushing ¼"-32 NEF-2A threaded x ¼" lg.; with nut and lockwasher.

CRL No.	Ohms	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
JC-501	500	$3.16	$2.91	$2.70	$2.11
JC-102	1000	3.16	2.91	2.70	2.11
JC-252	2500	3.16	2.91	2.70	2.11
JC-502	5000	3.16	2.91	2.70	2.11
JC-103	10K	3.16	2.91	2.70	2.11
JC-253	25K	3.16	2.91	2.70	2.11
JC-503	50K	3.16	2.91	2.70	2.11
JC-104	100K	3.16	2.91	2.70	2.11
JC-254	250K	3.16	2.91	2.70	2.11
JC-504	500K	3.16	2.91	2.70	2.11
JC-105	1 meg	3.16	2.91	2.70	2.11
JCS-102	1000	4.50	4.15	3.86	3.00
JCS-502	5000	4.50	4.15	3.86	3.00
JCS-503	50K	4.50	4.15	3.86	3.00

TYPE "TT" TWIST TAB CONTROLS

For rear service adjust TV controls. Uses UL Approved. Phenolic shaft ⅜" lg. from mounting surface, knurled full length; screwdriver slot on either end. Composition element rated ½ watt; 15/16" dia. x 7/16" d. Breakdown, 900 VAC rms to ground. Shipping Weight, 2 oz.

Any Model—Net Each, Any Quantity.... **$0.80**

CRL No.	Ohms	CRL No.	Ohms	CRL No.	Ohms	CRL No.	Ohms
TT-2	200	TT-26	25K	TT-60*	500K	TT-84	3 meg
TT-4	500	TT-31	50K	TT-66	750K	TT-86	4 meg
TT-411	750	TT-35	75K	TT-69	1 meg	TT-87	5 meg
TT-511	1500	TT-40	100K	TT-70*	1 meg	TT-90	7½ meg
TT-8	3000	TT-46	200K	TT-742	1½ meg		
TT-10	5000	TT-50	250K	TT-75	2 meg		
TT-14	10K	TT-59	500K	TT-83	2½ meg		

*C2 audio taper; all others C1, linear taper.

1/5-WATT COMPOSITION CONTROLS

Element completely enclosed, permitting further sealing or encapsulation. Linear taper. Rated 1/5 watt at 70°C; derate to 0 watt at 120° C. Resistance tolerance, ± 10%. Breakdown, 900 volts AC rms to ground at atmospheric pressure. Only 43/64" dia. **Model JMP:** Stainless steel, screwdriver-slotted shaft 1/8" dia. x 7/8" lg. from mounting surface. Left side locating lug. Mechanical rotation, 260° ±3°. Bushing, ¼"-32 NEF-2A threaded x ¼" lg. from mounting surface; with mounting nut and lockwasher. **Model JML:** Same as above, except shaft is ½" long from mounting surface and bushing is ⅜" lg. from mounting surface with shaft-locking nut supplied.

Ohms	Stock Values Model JMP CRL No.	Stock Values Model JML CRL No.
500	JMP-501	JML-501
1000	JMP-102	JML-102
1500	JMP-152	JML-152
2500	JMP-252	JML-252
5000	JMP-502	JML-502
10K	JMP-103	JML-103
10K	JMP2-103*	.....
25K	JMP-253	JML-253
50K	JMP-503	JML-503
100K	JMP-104	JML-104
250K	JMP-254	JML-254
500K	JMP-504	JML-504
500K	JMP2-504*	.....
1 meg.	JMP-105	JML-105
2500K	JMP-255	JML-255

*Audio taper C2.

MODELS JMP AND JML INDUSTRIAL NET PRICES

All Values CRL Types	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
JMP	$4.36	$4.02	$3.74	$2.91
JML	4.76	4.40	4.08	3.17

MINIATURE WIRE-WOUND 2-WATT CONTROLS

Rugged quality for military and industrial uses. Meet MIL-R-19A specifications. Conservatively rated 2 watts at 70° C; derate to 0 watt at 125° C. Breakdown, 900 volts AC rms at atmospheric pressure. Enclosed resistance element permits further sealing or encapsulation. Resistance tolerance, ±5%. Linear taper. Left side locating lug. Mechanical rotation, 250° ±3°. Only 43/64" dia. With mounting nut and lockwasher. **Model JWP:** Plain type with stainless steel, screwdriver slotted shaft 1/8" dia. x 7/8" lg. from mounting surface. Bushing, ¼"-32 NEF-2A threaded x ¼" long. **Model JWL:** Same, but shaft is 1/4" lg. from mounting surface and bushing is ⅜" lg. Shaft locking nut supplied.

Ohms	Model JWP CRL No.	Model JWL CRL No.	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
50	JWP-500	.....	$ 7.10	$6.55	$6.08	$4.85
50	.....	JWL-500	7.54	6.95	6.45	5.19
100	JWP-101	.....	7.10	6.55	6.08	4.85
100	.....	JWL-101	7.54	6.95	6.45	5.19
200	JWP-201	.....	7.10	6.55	6.08	4.85
200	.....	JWL-201	7.54	6.95	6.45	5.19
300	JWP-301	.....	7.10	6.55	6.08	4.85
300	.....	JWL-301	7.54	6.95	6.45	5.19
500	JWP-501	.....	7.10	6.55	6.08	4.85
500	.....	JWL-501	7.54	6.95	6.45	5.19
1000	JWP-102	.....	8.82	8.14	7.55	6.07
1000	.....	JWL-102	9.30	8.59	7.98	6.40
1500	JWP-152	.....	8.82	8.14	7.55	6.07
1500	.....	JWL-152	9.30	8.59	7.98	6.40
2000	JWP-202	.....	8.82	8.14	7.55	6.07
2000	.....	JWL-202	9.30	8.59	7.98	6.40
2500	JWP-252	.....	8.82	8.14	7.55	6.07
2500	.....	JWL-252	9.30	8.59	7.98	6.40
5000	JWP-502	.....	8.82	8.14	7.55	6.07
5000	.....	JWL-502	9.30	8.59	7.98	6.40
10K	JWP-103	.....	10.02	9.26	8.60	6.90
10K	.....	JWL-103	10.40	9.64	8.95	7.20
20K	JWP-203	.....	10.02	9.26	8.60	6.90
20K	.....	JWL-203	10.40	9.64	8.95	7.20
25K	JWP-253	.....	10.02	9.26	8.60	6.90
25K	.....	JWL-253	10.40	9.64	8.95	7.20

KNOB FOR SERIES JM AND JW

KC-3—Black knob, 1 1/16" dia. Net Ea..... **$0.37**

NOTE: Items requiring certified test data and government source inspection are special; prices and information supplied upon request.

MODEL C MINIATURE 7.5-WATT RHEOSTATS

Ultra-miniature 7.5-watt (at 40° C ambient) power rheostat sets the standards for high performance with minimum size. Resistance element wound on ceramic ring, coated with Ohmicone® Silicone-ceramic; joined to ceramic base. Completely insulated and enclosed in corrosion-resistant case. Designed to operate at 340° C max. hot spot temperature. **Power Rating:** 7.5 watts on steel panel 4″ sq. x .04″ th. at 40° C; 5 watts in non-metallic panel or transistor socket. **Resistance Tolerance:** ±10%. **Torque:** 1–3 oz.-in. **Rotation:** 300° (±5°). **Knob:** No. 5151 recommended (not supplied). **Shaft:** ⅛″ dia. with screwdriver slot for standard (with knob) or locking bushing. **Size:** Body .515″ dia. x ⅞″ lg.; bushing ¼″-32 flatted and threaded x ¼″ lg. for panels to ⅛″ thick. Lug terminals take 22 ga. solid or 24 ga. stranded wire; fit EIA type TS-E3R100 transistor socket. Taper pin terminals for quick-connect connectors, or spade lug terminals available on special order.

NET PRICES

Resistance Range, Ohms	With Standard Shaft Net Each, Lots of			With Locking Shaft Net Each, Lots of		
	1-4	5-9	10 Up	1-4	5-9	10 Up
10 thru 750	$18.55	$15.77	$12.43	$19.79	$16.82	$13.26
1000 thru 2500	21.09	17.93	14.13	22.03	18.73	14.76
3500 and 5000	22.06	18.75	14.78	22.91	19.47	15.35

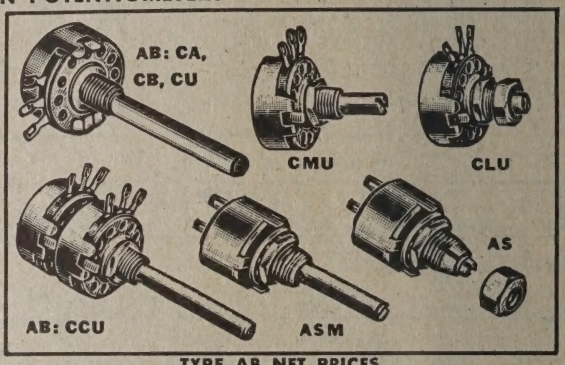
● **FITS TRANSISTOR SOCKETS**

STOCK VALUES

Ohms	Amps	Ohmite Model No. for Std. Shaft	Ohmite Model No. for Locking Shaft
10	.86	4908	4948
15	.71	4909	4949
25	.55	4910	4950
35	.46	4911	4951
50	.39	4912	4952
75	.32	4913	4953
100	.27	4914	4954
150	.22	4915	4955
200	.19	4916	4956
250	.17	4917	4957
350	.15	4918	4958
500	.12	4919	4959
750	.1	4920	4960
1000	.086	4921	4961
1500	.071	4922	4962
2500	.055	4923	4963
3500	.046	4924	4964
5000	.039	4925	4965

MOLDED COMPOSITION POTENTIOMETERS

Available in MIL-R-94 Styles RV4N, RV4L, RV6L, RV6N. High reliability for universal use as rheostats or potentiometers in industrial, military or other high quality electronic devices. All units provide a very large safety factor; overloads of short duration can be safely absorbed. Positive, trouble-free connections assured with terminals molded directly into control elements. Resistance and collector tracks are bridged by a molded composition brush for long life. Noise level is exceedingly low; actually decreases with use of the unit. Various elements of the unit are molded together at one time into a single, integral structure that is sealed against moisture. A metal cover is sealed to the element to electrically shield the internal parts; a synthetic resin is the sealing agent with non-mercurial fungicide to assure dust-tight, splash-proof and fungus resistant safety. Molding method permits predetermination of resistance-rotation characteristics to such a fine degree that ideal curves are followed quite closely. Thus, a single element with a smoothly graduated resistance change produces modified logarithmic tapers in AB units. **Type AB Controls:** Rated 2 watts at 70° C; 500 volts, rms, 60-Hz max. continuous across resistance elements: 1000 V rms for 1 sec., high potential test. Size, 1⅛″ dia. Available in Style CMU, single control with ¼″ slotted shaft, linear taper, MIL Style RV4N; Style CU single control with 2″ unslotted shaft, linear taper; Style CA clockwise modified log taper version of CU; Style CB, counter-clockwise modified log taper version of CU; Style CLU single control with locking-type shaft, linear taper MIL Style RV4L; and, Style CCU dual control with 2″ shaft, linear taper. **Type AS Miniature Controls:** Rated ½ watt at 70° C; 350 volts, rms, 60-Hz max. continuous voltage across resistance elements; 750 V rms for 1 sec., high potential test. Size, ½″ dia. Available with locking type shaft, slotted for screwdriver with collet bushing and conical nut; linear taper, MIL Style RV6L; or, ⅛″ lg. shaft for knob control, standard bushing MIL Style RV6N. **Temp. Range:** −55° C to +120° C, operating; derate linearly from full rating at +70° C to zero at +120° C, for linear taper; other tapers, multiply ratings obtained for linear taper by 0.5. **Humidity and Corrosion:** Temporary resistance changes less than 5% after exposure for 100 hours at 40° C to 95% relative humidity. Meets 200 hr. salt spray corrosion test QQ-M-151, military specification. **Rotation:** 312° ±3°, Type AB without on-off switch; 333°, ±3°, with switch. Type AS, 295°, ±5°.



TYPE AB NET PRICES

Ohmite No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250 Up
CMU	⅛″ shaft, sgle. MIL	$2.40	$2.16	$2.10	$2.00	$1.42	$1.10
CU	2″ shaft, linear	2.40	2.16	2.10	2.00	1.42	1.10
CA	2″ shaft, CW log	2.40	2.16	2.10	2.00	1.42	1.10
CB	2″ shaft, CCW log	2.40	2.16	2.10	2.00	1.42	1.10
CLU	Locking shaft, MIL	2.98	2.75	2.65	2.55	1.80	1.40
CCU	Dual locking shaft	6.26	5.62	5.56	5.41	3.67	2.83

TYPE AS, ASM NET PRICES

Ohmite No.	Description	Net Each, Lots of 1-9	10-49	50-99	100 Up
AS	Locking shaft, min. MIL	$5.10	$4.59	$4.25	$2.71
ASM	⅛″ knob shaft, MIL	4.87	4.37	4.03	2.56

STOCK VALUES

MIL units are stamped with MIL and commercial designations.

Resistance Ohms ±10%	Type AB (1 5/32″ Dia.) Single, ⅞″ Shaft: Style CMU Linear	MIL Desig. RV4NAY	Single Unit 2″ Shaft: Style CU Linear	Style CA CW log	Style CB CCW log	Locking: Style CLU Linear	MIL Desig. RV4LAY-	Dual: Style CCU Linear	Type AS (½″ Dia.) Min. Locking: Style AS Linear	MIL Desig. RV6LAY-	Min. ⅞″ Shaft: Style ASM Linear	MIL Desig. RV6NAY-
50	CMU5001	SD500A	CU5001	.....	.....	CLU5001	SA500A	.....				
100	CMU1011	SD101A	CU1011	.....	.....	CLU1011	SA101A	.....	AS3601	SA101A	ASM6661	SD101A
150	CMU1511	SD151A	CU1511	.....	.....	CLU1511	SA151A	.....				
250	CMU2511	SD251A	CU2511	.....	.....	CLU2511	SA251A	.....	AS3602	SA251A	ASM6662	SD251A
350	CMU3511	SD351A	CU3511	.....	.....	CLU3511	SA351A	.....				
500	CMU5011	SD501A	CU5011	.....	.....	CLU5011	SA501A	.....	AS3603	SA501A	ASM6663	SD501A
750	CMU7511	SD751A	CU7511	.....	.....	CLU7511	SA751A	.....				
1,000	CMU1021	SD102A	CU1021	.....	.....	CLU1021	SA102A	.....	AS3604	SA102A	ASM6664	SD102A
1,500	CMU1521	SD152A	CU1521	.....	.....	CLU1521	SA152A	.....				
2,500	CMU2521	SD252A	CU2521	.....	.....	CLU2521	SA252A	.....	AS3605	SA252A	ASM6665	SD252A
3,500	CMU3521	SD352A	CU3521	.....	.....	CLU3521	SA352A	.....				
5,000	CMU5021	SD502A	CU5021	.....	.....	CLU5021	SA502A	.....	AS3606	SA502A	ASM6666	SD502A
7,500	CMU7521	SD752A	CU7521	.....	.....	CLU7521	SA752A	.....				
10,000	CMU1031	SD103A	CU1031	.....	CB1031	CLU1031	SA103A	CCU1031†	AS3607	SA103A	ASM6667	SD103A
15,000	CMU1531	SD153A	CU1531	.....	.....	CLU1531	SA153A	.....				
25,000	CMU2531	SD253A	CU2531	.....	CB2531	CLU2531	SA253A	CCU2531†	AS3608	SA253A	ASM6668	SD253A
35,000	CMU3531	SD353A	CU3531	.....	.....	CLU3531	SA353A	.....				
50,000	CMU5031	SD503A	CU5031	.....	CB5031	CLU5031	SA503A	CCU5031†	AS3609	SA503A	ASM6669	SD503A
75,000	CMU7531	SD753A	CU7531	.....	.....	CLU7531	SA753A	.....				
.1 meg	CMU1041	SD104A	CU1041	CA1041	.....	CLU1041	SA104A	CCU1041†	AS3610	SA104A	ASM6670	SD104A
.15 meg	CMU1541	SD154A	CU1541	.....	.....	CLU1541	SA154A	.....				
.25 meg	CMU2541	SD254A	CU2541	CA2541	.....	CLU2541	SA254A	CCU2541†	AS3611	SA254A	ASM6671	SD254A
.35 meg	CMU3541	SD354A	CU3541	.....	.....	CLU3541	SA354A	.....				
.5 meg	CMU5041	SD504A	CU5041	CA5041	.....	CLU5041	SA504A	CCU5041†	AS3612	SA504A	ASM6672	SD504A
.75 meg*	CMU7542	SD754B	CU7542	.....	.....	CLU7542	SA754B	.....				
1.0 meg*	CMU1052	SD105B	CU1052	CA1052	.....	CLU1052	SA105B	CCU1052†	AS3613	SA105B	ASM6673	SD105B
1.5 meg*	CMU1552	SD155B	CU1552	.....	.....	CLU1552	SA155B	.....				
2.0 meg*	CMU2052	SD205B	CU2052	.....	.....	CLU2052	SA205B	.....	AS3684	SA205B	ASM6674	SD205B
2.5 meg*	CMU2552	SD255B	CU2552	CA2552	.....	CLU2552	SA255B	.....	AS3614	SA255B	ASM6675	SD255B
3.5 meg*	CMU3552	SD355B	CU3552	.....	.....	CLU3552	SA355B	.....				
5.0 meg*	CMU5052	SD505B	CU5052	.....	.....	CLU5052	SA505B	.....	AS3615	SA505B	ASM6676	SD505B

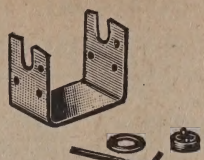
*±20% tolerance. †Resistance shown is for each unit.

OHMITE® Rheostats, Couplings

VITREOUS ENAMELED RHEOSTATS, TANDEM COUPLING KITS

"E"

"E" Enclosed



6532 Kit

"N"

Wire-wound vitreous enameled rheostats with solid ceramic core. Pivoted, universal action. Metal-graphite contact brushes, varied to fit current and resistance. Models G, H, J, K, L, N and P are listed under UL Reexamination Service. Current ratings listed are in free air; when enclosed, currents should be reduced up to 50% depending on ventilation.

Model "E" Rheostats, 12½-Watt—Rating on metal panel. Size, ⅞" dia. x 1 1/16" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0101	1	$6.94	$5.91	$4.66	$3.82	$2.93
0102	2	6.94	5.91	4.66	3.82	2.93
0102A	2.5	6.94	5.91	4.66	3.82	2.93
0103	3	6.94	5.91	4.66	3.82	2.93
0103A	5	6.94	5.91	4.66	3.82	2.93
0104	6	6.94	5.91	4.66	3.82	2.93
0105	8	6.94	5.91	4.66	3.82	2.93
0106	10	6.94	5.91	4.66	3.82	2.93
0107	15	6.74	5.74	4.52	3.71	2.84
0108	25	6.74	5.74	4.52	3.71	2.84
0109	35	6.74	5.74	4.52	3.71	2.84
0110	50	6.74	5.74	4.52	3.71	2.84
0111	75	6.74	5.74	4.52	3.71	2.84
0112	100	6.74	5.74	4.52	3.71	2.84
0113	125	6.74	5.74	4.52	3.71	2.84
0113A	150	6.74	5.74	4.52	3.71	2.84
0114	175	6.74	5.74	4.52	3.71	2.84
0114A	200	6.74	5.74	4.52	3.71	2.84
0115	250	6.74	5.74	4.52	3.71	2.84
0116	350	6.74	5.74	4.52	3.71	2.84
0117	500	6.74	5.74	4.52	3.71	2.84
0118	750	6.74	5.74	4.52	3.71	2.84
0119	1000	6.94	5.91	4.66	3.82	2.93
0120	1500	6.94	5.91	4.66	3.82	2.93
0121	2500	6.94	5.91	4.66	3.82	2.93
0122*	3500	8.37	7.12	5.61	4.60	3.51
0123*	5000	8.37	7.12	5.61	4.60	3.51
4190*	7500	8.95	7.61	6.00	4.93	3.76
4191*	10K	8.95	7.61	6.00	4.93	3.76
4192*	12.5K	9.74	8.28	6.53	5.36	4.09
4193*	15K	9.74	8.28	6.53	5.36	4.09

Model "E" Enclosed Rheostats—Same, but in corrosion-resistant dust-proof case. Use prefix **W** (**W**0101). Mt. on ⅛" panels.

Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
1-3	$14.42	$12.35	$ 9.73	$7.99
5-15	14.21	12.08	9.53	7.82
25-500	13.39	11.38	8.97	7.37
750-2.5K	14.21	12.08	9.53	7.82
3.5K*, 5K*	14.63	12.43	9.80	8.04
7.5K*, 10K*	15.04	12.78	10.07	8.27
12.5K*, 15K*	16.27	13.83	10.91	8.95

Model "H" Rheostats—25-Watt—Size, 1 9/16" dia. x 1⅜" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0140	1	$6.94	$5.91	$4.66	$3.82	$2.93
0141	2	6.94	5.91	4.66	3.82	2.93
0142	3	6.94	5.91	4.66	3.82	2.93
0143	6	6.94	5.91	4.66	3.82	2.93
0144	8	6.94	5.91	4.66	3.82	2.93
0145	10	6.94	5.91	4.66	3.82	2.93
0146	15	6.74	5.74	4.52	3.71	2.84
0147	25	6.74	5.74	4.52	3.71	2.84
0148	35	6.74	5.74	4.52	3.71	2.84
0149	50	6.74	5.74	4.52	3.71	2.84
0150	75	6.74	5.74	4.52	3.71	2.84
0151	100	6.74	5.74	4.52	3.71	2.84
0152	125	6.74	5.74	4.52	3.71	2.84
0153	175	6.74	5.74	4.52	3.71	2.84
0154	250	6.74	5.74	4.52	3.71	2.84
0155	350	6.74	5.74	4.52	3.71	2.84
0156	500	6.74	5.74	4.52	3.71	2.84
0157	750	6.74	5.74	4.52	3.71	2.84
0158	1000	6.94	5.91	4.66	3.82	2.93
0159	1500	6.94	5.91	4.66	3.82	2.93
0160	2500	6.94	5.91	4.66	3.82	2.93
0161	3500	7.83	6.65	5.24	4.95	3.29
0162	5000	7.83	6.65	5.24	4.95	3.29
4200*	7500	8.38	7.13	5.62	4.61	3.52
4201*	10K	8.38	7.13	5.62	4.61	3.52
4202*	15K	8.95	7.61	6.00	4.93	3.76
4203*	20K	9.52	8.09	6.38	5.23	4.00
4204*	25K	10.42	8.86	6.98	5.74	4.38

Model "J" Rheostats—50-Watt—Size, 2 5/16" dia. x 1⅜" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0308	0.5	$8.16	$6.93	$5.47	$4.48	$3.48
0309	1	8.16	6.93	5.47	4.48	3.48
0310	2	8.16	6.93	5.47	4.48	3.48
0311	4	8.16	6.93	5.47	4.48	3.48
0312	6	8.16	6.93	5.47	4.48	3.48
0313	8	7.27	6.18	4.87	4.00	3.05
0314	12	7.27	6.18	4.87	4.00	3.05
0315	16	7.27	6.18	4.87	4.00	3.05
0316	22	7.27	6.18	4.87	4.00	3.05
0317	35	7.27	6.18	4.87	4.00	3.05
0318	50	7.27	6.18	4.87	4.00	3.05
0319	80	7.27	6.18	4.87	4.00	3.05
0320	125	7.27	6.18	4.87	4.00	3.05
0321	150	7.27	6.18	4.87	4.00	3.05
0322	225	7.27	6.18	4.87	4.00	3.05
0323	300	7.27	6.18	4.87	4.00	3.05
0324	500	7.27	6.18	4.87	4.00	3.05
0325	800	7.71	6.56	5.17	4.24	3.24
0326	1000	7.71	6.56	5.17	4.24	3.24
0327	1600	7.71	6.56	5.17	4.24	3.24
0328	2500	7.71	6.56	5.17	4.24	3.24
0329	3500	8.16	6.95	5.47	4.87	3.43
0330	5000	8.16	6.95	5.47	4.87	3.43
0331	8K	8.16	6.95	5.47	4.87	3.43
0332	10K	8.16	6.95	5.47	4.87	3.43
4210*	15K	10.65	9.05	7.14	5.86	4.48
4211*	20K	10.65	9.05	7.14	5.86	4.48
4212*	25K	11.78	10.01	7.90	6.49	4.95
4213*	30K	13.03	11.08	8.73	7.17	5.47
4214*	40K	14.96	12.71	10.01	8.23	6.27
4215*	50K	16.66	14.16	11.17	9.17	7.00

Model "G" Rheostats—75-Watt—Size, 2¾" dia. x 1¾" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
1100	0.5	$14.91	$12.67	$9.99	$8.20
1101	1	14.91	12.67	9.99	8.20
1102	2	13.13	11.16	8.80	7.22
1103	3	13.13	11.16	8.80	7.22
1104	5	13.13	11.16	8.80	7.22
1105	7.5	13.13	11.16	8.80	7.22
1106	10	13.13	11.16	8.80	7.22
1107	16	13.13	11.16	8.80	7.22
1108	25	13.13	11.16	8.80	7.22
1109	50	13.13	11.16	8.80	7.22
1110	75	13.13	11.16	8.80	7.22
1111	100	13.13	11.16	8.80	7.22
1112	200	13.13	11.16	8.80	7.22
1113	300	13.13	11.16	8.80	7.22
1114	400	13.13	11.16	8.80	7.22
1115	500	13.13	11.16	8.80	7.22
1116	750	13.13	11.16	8.80	7.22
1117	1000	13.13	11.16	8.80	7.22
1118	1500	12.60	10.71	8.44	6.93
1119	2000	12.60	10.71	8.44	6.93
1120	2500	12.60	10.71	8.44	6.93
1121	5000	13.44	11.42	9.01	7.39
1122	7500	14.70	12.50	9.85	8.09

Model "K" Rheostats—100-Watt—Size, 3⅛" dia. x 1¾" d. behind panel.

0440	0.5	$15.33	$13.03	$10.27	$8.43
0441	1	15.33	13.03	10.27	8.43
0442	2	14.28	12.14	9.57	7.85
0443	3	14.28	12.14	9.57	7.85
0444	5	14.28	12.14	9.57	7.85
0445	7.5	14.28	12.14	9.57	7.85
0446	10	14.28	12.14	9.57	7.85
0447	16	11.97	10.17	8.02	6.58
0448	25	11.97	10.17	8.02	6.58
0449	50	11.97	10.17	8.02	6.58
0450	75	11.97	10.17	8.02	6.58
0451	100	11.97	10.17	8.02	6.58
0452	200	11.97	10.17	8.02	6.58
0453	300	11.97	10.17	8.02	6.58
0454	400	11.97	10.17	8.02	6.58
0455	500	11.97	10.17	8.02	6.58
0456	750	11.97	10.17	8.02	6.58
0457	1000	14.28	12.14	9.57	7.85
0458	1500	14.28	12.14	9.57	7.85
0459	2000	14.28	12.14	9.57	7.85
0460	2500	14.28	12.14	9.57	7.85
0461	5000	14.91	12.67	9.99	8.20
0462	7500	15.86	13.48	10.63	8.73
0463	10K	16.96	14.42	11.36	9.32

Model "L" Rheostats—150-Watt—Size, 4" dia. x 2" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
0524	0.5	17.85	15.17	11.96	9.82
0525	1	17.85	15.17	11.96	9.82
0526	2	17.85	15.17	11.96	9.82
0527	3	15.61	13.28	10.46	8.60
0528	5	15.61	13.28	10.46	8.60
0529	7.5	15.61	13.28	10.46	8.60
0530	10	15.61	13.28	10.46	8.60
0531	15	14.49	12.33	9.70	7.98
0532	25	14.49	12.33	9.70	7.98
0533	35	14.49	12.33	9.70	7.98
0534	50	14.49	12.33	9.70	7.98
0535	75	14.49	12.33	9.70	7.98
0536	100	14.49	12.33	9.70	7.98
0537	150	14.49	12.33	9.70	7.98
0538	200	14.49	12.33	9.70	7.98
0539	250	14.49	12.33	9.70	7.98
0540	350	14.49	12.33	9.70	7.98
0541	500	14.49	12.33	9.70	7.98
0542	750	16.74	13.28	10.46	8.60
0543	1250	16.74	13.28	10.46	8.60
0544	1800	17.98	14.24	11.21	9.21
0545	2250	17.98	14.24	11.21	9.21
0546	3000	17.98	14.24	11.21	9.21
0547	4500	19.94	15.28	12.04	9.89
0548	7500	22.84	16.96	13.30	10.96
0549	10K	24.43	20.77	16.37	13.44

Model "P" Rheostats—225-Watt—Size, 5" dia. x 2⅛" d. behind panel.
Net Ea., 1-2. **$22.85**; Net Ea., 3 Up. **$19.42**

Model "N" Rheostats—300-Watt—Size, 6" dia. x 2⅜" d. behind panel.
Net Ea., 1-2. **$26.25**; Net Ea., 3 Up. **$22.31**

Resis., Ohms	Model "P"	Model "N"	Resis., Ohms	Model "P"	Model "N"
1	1250	0650	150	1262	0662
2	1251	0651	200	1263	0663
3	1252	0652	300	1264	0664
4	1253	0653	400	1265	0665
5	1254	0654	700	1266	0666
7.5	1255	0655	900	1267	0667
10	1256	0656	1200	1268	0668
15	1257	0657	1500	1269	0669
25	1258	0658	1750	1270	0670
50	1259	0659	2000	1270A	0670A
75	1260	0660	2500	1271	0671
100	1261	0661			

Model "R" Rheostats, 500-Watt—Size, 8" dia. x 2½" d. behind panel.
Net Ea., 1-2. **$29.70**; Net Ea., 3 Up. **$25.25**

Model "T" Rheostats, 750-Watt—Size, 10" dia. x 3" d. behind panel.
Net Ea., 1-2. **$44.00**; Net Ea., 3 Up. **$39.16**

Model "U" Rheostats, 1000-Watt—Size, 12" dia. x 3" d. behind panel.
Net Ea., 1-2. **$52.00**; Net Ea., 3 Up. **$46.80**

Resis., Ohms	Model "R"	Model "T"	Model "U"
1	0849	1300	1450
1.5	0850	1301	1451
2	0851	1302	1452
2.5	0852	1303	1453
3	0853	1304	1454
4	0854	1305	1455
5	0855	1306	1456
8	0856	1307	1457
10	.....	1308	1458
12.5	0857	1309	1459
16	0858	1310	1460
25	0859	1311	1461
40	0860	.....	.....
50	0872	1312	1462
75	.....	.....	1463
80	0861	1313	.....
100	.....	1314	1464
125	0862	.....	.....
160	.....	1315	.....
175	0863	.....	1465
200	.....	1316	.....
225	.....	.....	1466
250	0864	.....	.....
300	.....	1317	1467
325	0865	.....	.....
400	.....	1318	1468
500	0866	.....	1469
600	.....	1319	.....
750	0867	1320	1470
1000	0868	.....	1471
1200	.....	1321	.....
1500	0869	.....	1472
1800	.....	1322	.....
2000	0870	1322A	.....
2500	0871	1323	1473

Tandem Coupling Kits—Includes steel "U" frame, coupling with set screw, mica washer, Allen wrench and instructions.

No.	For Models	Net Each, Lots of 1-4	5-9	10-24	25 Up
6532†	H, J	$5.32	$4.52	$3.56	$2.93
6533‡	G, K, L	7.06	6.00	4.73	3.88
6591	E	3.62	3.08	2.43	1.99

*Silicone-ceramic coated; not UL listed. †Models G, K or L in rear position when panel mounted. ‡Models G, H, J, K or L in rear position.

MONO-KAP™ CERAMIC CAPACITORS

MINIATURE MONOLITHIC, RADIAL LEAD, EPOXY COATED

Provide very high capacitance in extremely small size ceramic package. Reliable Ceramolithic® construction and 100% testing assures top performance and maximum quality. **Operating Temperature:** −55° C to +125° C. **Insulation Resistance:** 100K megs or 1000 megohm-microfarads, whichever is less at 25° C, rated VDCW applied. **Leads:** Tinned wire.

CN SERIES—ULTRA-STABLE

EIA Temperature Characteristic: COG (NPO). **Temp. vs Cap.:** 0 ±30 ppm/° C max. cap. change from +25° C reading over temp. range of +25° C to +85° C. **Dissipation Factor:** 0.15% max. at 1 kHz and +25° C. **Tolerance:** ±10% (suffix **K**); ±0.5 pF (suffix **D**).

100 VDCW

Capacitance pF or µF	CRL Number*	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-Up
4.7 pF	CN10A4R7D	$0.83	$0.418	$0.279
6.8	CN10A6R8D	.83	.418	.279
10	CN15A100K	.35	.182	.118
15	CN15A150K	.35	.182	.118
22	CN15A220K	.35	.182	.118
33	CN15A330K	.35	.182	.118
47	CN15A470K	.35	.182	.118
68	CN15A680K	.35	.182	.118
100	CN15A101K	.35	.182	.118
150	CN15A151K	.35	.182	.118
220	CN15A221K	.35	.182	.118
330	CN20A331K	.70	.354	.236
470	CN20A471K	.70	.354	.236
680	CN20A681K	.80	.408	.268
.001 µF	CN20A102K	.80	.408	.268
.0015	CN20A152K	.93	.472	.311
.022	CN30A222K	1.71	.858	.568
.0033	CN30A332K	1.87	.933	.622
.0047	CN30A472K	2.17	1.06	.708
.0068	CN30A682K	2.60	1.31	.869
.01	CN40A103K	4.57	2.28	1.52

CW SERIES—TEMPERATURE STABLE

EIA Temperature Characteristic: X7R. **Temp. vs Cap.:** ±15% max. cap. change from +25° C reading over temp. range of −55° C to +125° C. **Dissipation Factor:** 2.5% max. at 1 kHz and +25° C. **Tolerance:** ±10% (suffix **K**); ±20% (suffix **M**).

50 VDCW

150 pF	CW15C151K	$0.32	$0.161	$0.107
180	CW15C181K	.32	.161	.107
220	CW15C221K	.32	.161	.107
270	CW15C271K	.32	.161	.107
330	CW15C331K	.32	.161	.107
390	CW15C391K	.32	.161	.107
470	CW15C471K	.32	.161	.107
.560	CW15C561K	.32	.161	.107
680	CW15C681K	.32	.161	.107
820	CW15C821K	.32	.161	.107
.001 µF	CW15C102K	.32	.161	.107
.001	CW15C102M	.29	.139	.097
.0012	CW15C122K	.32	.161	.107
.0015	CW15C152K	.32	.161	.107
.0018	CW15C182K	.32	.161	.107
.0022	CW15C222K	.32	.161	.107
.0027	CW15C272K	.32	.161	.107
.0033	CW15C332K	.32	.161	.107
.0039	CW15C392K	.32	.161	.107
.0047	CW15C472K	.32	.161	.107
.0068	CW15C682K	.39	.193	.129
.0082	CW15C822K	.39	.193	.129
.01	CW15C103K	.39	.193	.129
.01	CW15C103M	.32	.161	.107
.012	CW15C123K	.42	.204	.139
.015	CW15C153K	.42	.204	.139
.018	CW20C183K	.51	.257	.204
.022	CW20C223K	.51	.257	.204
.027	CW20C273K	.64	.322	.257
.033	CW20C333K	.64	.322	.257
.039	CW20C393K	.64	.322	.257
.047	CW20C473K	.64	.322	.257
.056	CW20C563K	.64	.322	.257
.068	CW20C683K	.74	.365	.279
.082	CW20C823K	.74	.365	.279
.1	CW30C104K	1.32	.654	.526
.1	CW30C104M	1.16	.579	.472
.15	CW30C154K	1.58	.783	.611
.22	CW30C224K	1.87	.933	.719

100 VDCW

150 pF	CW15A151K	$0.32	$0.161	$0.107
180	CW15A181K	.32	.161	.107
220	CW15A221K	.32	.161	.107
270	CW15A271K	.32	.161	.107
330	CW15A331K	.32	.161	.107
390	CW15A391K	.32	.161	.107
470	CW15A471K	.32	.161	.107
560	CW15A561K	.32	.161	.107
680	CW15A681K	.32	.161	.107
820	CW15A821K	.32	.161	.107

CW SERIES (CONTINUED)

100 VDCW

Capacitance pF of µF	CRL Number*	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-Up
.001 µF	CW15A102K	$0.32	$0.161	$0.107
.0012	CW15A122K	.32	.161	.107
.0015	CW15A152K	.32	.161	.107
.0018	CW15A182K	.32	.161	.107
.0022	CW15A222K	.32	.161	.107
.0027	CW15A272K	.32	.161	.107
.0033	CW15A332K	.32	.161	.107
.0039	CW15A392K	.32	.161	.107
.0047	CW15A472K	.32	.161	.107
.0056	CW15A562K	.32	.161	.107
.0068	CW20A682K	.51	.257	.204
.0082	CW20A822K	.51	.257	.204
.01	CW20A103K	.51	.257	.204
.012	CW20A123K	.54	.268	.215
.015	CW20A153K	.54	.268	.215
.018	CW20A183K	.54	.268	.215
.022	CW20A223K	.54	.268	.215
.027	CW20A273K	.64	.322	.210
.033	CW20A333K	.64	.322	.210
.039	CW30A393K	1.16	.579	.472
.047	CW30A473K	1.16	.579	.472
.056	CW30A563K	1.42	.708	.558
.068	CW30A683K	1.42	.708	.558
.082	CW30A823K	1.42	.708	.558
.1	CW30A104K	1.32	.659	.526
.15	CW40A154K	2.74	1.36	.912
.22	CW40A224K	3.22	1.61	1.07
.33	CW50A334K	5.34	2.67	2.28
.47	CW50A474K	6.31	3.15	2.66
.56	CW50A564K	7.18	3.58	2.95

CY SERIES—GENERAL PURPOSE

EIA Temperature Characteristic: Y5V (General Purpose). **Temp. vs Cap.:** +22%, −82% max. cap. change from +25° C reading over temp. range of −30° C to +85° C. **Dissipation Factor:** 2.5% max. at 1 kHz and +25° C. **Tolerance:** ±20% (suffix **M**); GMV +100–0% (suffix **P**).

50 VDCW

470 pF	CY15C471M	$0.39	$0.193	$0.129
680	CY15C681M	.39	.193	.129
.001 µF	CY15C102M	.39	.193	.129
.0015	CY15C152M	.39	.193	.129
.0022	CY15C222M	.39	.193	.129
.0033	CY15C332M	.39	.193	.129
.0047	CY15C472M	.39	.193	.129
.0068	CY15C682M	.39	.193	.129
.01	CY15C103M	.39	.193	.129
.01	CY15C103P	.29	.15	.097
.015	CY15C153M	.39	.193	.129
.022	CY15C223M	.39	.193	.129
.033	CY15C333M	.39	.193	.129
.047	CY15C473M	.41	.215	.139
.068	CY15C683M	.41	.215	.139
.1	CY20C104M	.68	.332	.268
.1	CY20C104P	.48	.236	.182
.15	CY20C154M	.77	.386	.311
.22	CY20C224M	.77	.386	.311
.33	CY20C334M	.87	.429	.354
.47	CY20C474M	.87	.429	.354
.68	CY20C684M	2.00	1.00	.815
1.0	CY30C105M	2.00	1.00	.815
1.0	CY30C105P	1.38	.686	.547
1.5	CY30C155M	2.19	1.09	.912
2.2	CY30C225M	2.57	1.29	1.08
3.3	CY40C335M	4.70	2.35	1.88
4.7	CY40C475M	5.73	2.86	2.26

100 VDCW

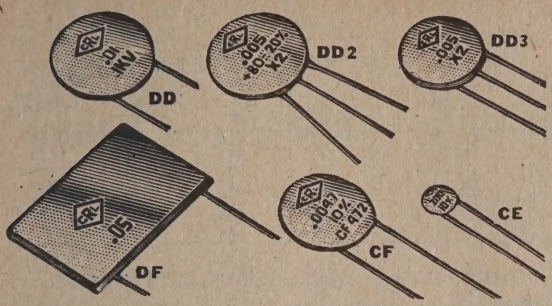
.0068 µF	CY15A682M	$0.39	$0.193	$0.129
.01	CY15A103M	.39	.193	.129
.01	CY15A103P	.29	.15	.150
.015	CY15A153M	.39	.193	.129
.022	CY15A223M	.39	.193	.129
.033	CY15A333M	.39	.193	.129
.047	CY20A473M	.64	.322	.257
.068	CY20A683M	.68	.332	.268
.1	CY20A104M	.68	.332	.268
.1	CY20A104P	.48	.236	.182
.15	CY20A154M	.77	.386	.311
.22	CY20A224M	.77	.386	.311
.33	CY30A334M	1.67	.837	.686
.47	CY30A474M	1.67	.837	.686
.68	CY30A684M	2.06	1.03	.858
1.0	CY30A105M	2.06	1.03	.858
1.5	CY40A155M	3.96	1.97	1.48
2.2	CY40A225M	4.57	2.28	1.77

*SIZE CHART

First two numbers of CRL No. indicate size code (e.g., CN**10**= Size 10). Lead length, 1.25" min.

Size Code	Size, Inches Maximum Lgth.	Maximum Width	Maximum Thk.	Lead Spacing	Lead AWG
10	.100	.100	.100	.100	26
15	.150	.150	.100	.100	26
20	.200	.200	.125	.100	24
30	.300	.300	.150	.200	24
40	.400	.400	.150	.200	24
50	.500	.500	.200	.400	22

CENTRALAB Ceramic Capacitors



DD CERAMIC DISC HI-KAPS®

Ideal for bypass and non-critical coupling in electronic equipment having operating temperatures ranging from −55° C to +85° C where high capacity is required and control stability is secondary. Rated 1000 WVDC except: DD6-103, DD-153, DD-203, DD-303, DD-403 and DD-503, which are 600 WVDC. **Tolerance:** ±10% unless otherwise noted.

Cap., pF	CRL Number	Dia., In.	Cap., pF	CRL Number	Dia., In.
3.3*	DD-3R3	.290	470	DD-471	.290
5	DD-050	.290	500	DD-501	.290
6	DD-060	.290	510	DD-511	.290
6.8	DD-6R8	.290	560	DD-561	.290
7.5	DD-7R5	.290	600	DD-601	.290
8	DD-080	.290	680	DD-681	.290
10	DD-100	.290	750	DD-751	.290
12	DD-120	.290	800†	DD-801	.290
15	DD-150	.290	820	DD-821	.290
18	DD-180	.290	910	DD-911	.290
20	DD-200	.290	1000	DD-102	.385
22	DD-220	.290	1000†	DD-102G	.290
24	DD-240	.290	1200	DD-122	.385
25	DD-250	.290	1300	DD-132	.385
27	DD-270	.290	1500	DD-152	.385
30	DD-300	.290	1500†	DD-152G	.290
33	DD-330	.290	1600	DD-162	.385
39	DD-390	.290	1800	DD-182	.385
47	DD-470	.290	2000†	DD-202	.385
50	DD-500	.290	2200†	DD-222	.385
51	DD-510	.290	2500†	DD-252	.385
56	DD-560	.290	2700†	DD-272	.385
68	DD-680	.290	3000†	DD-302	.385
75	DD-750	.290	3300†	DD-332	.590
82	DD-820	.290	3900†	DD-392	.590
91	DD-910	.290	4000†	DD-402	.590
100	DD-101	.290	4300†	DD-432	.590
120	DD-121	.290	4700‡	DD-472	.590
130	DD-131	.290	5000‡	DD-5022	.590
150	DD-151	.290	5000†	DD-502	.590
180	DD-181	.290	5600†	DD-562	.590
200	DD-201	.290	6800†	DD-682	.590
220	DD-221	.290	7500†	DD-752	.590
240	DD-241	.290	8200†	DD-822	.690
250	DD-251	.290	10,000†	DD-103	.690
270	DD-271	.290	10,000‡	DD-1032	.690
300	DD-301	.290	10,000†	DD6-103	.590
330	DD-331	.290	15,000§	DD-153	.690
350	DD-351	.290	20,000§	DD-203	.690
360	DD-361	.290	30,000§	DD-303	.718
390	DD-391	.290	40,000§	DD-403	.718
400	DD-401	.290	50,000§	DD-503	.875

DD INDUSTRIAL NET EACH PRICES

Values, pF	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 10,000 10,000-Up
3.3*–6.8	$0.18	$0.086	$0.044	$0.033
7.5, 8	.20	.096	.049	.036
10–470	.18	.086	.044	.033
500–750	.18	.086	.044	.033
800†	.18	.086	.044	.033
820, 910	.18	.086	.044	.033
1,000	.20	.096	.049	.036
1,000†	.16	.077	.040	.029
1,200	.20	.096	.049	.036
1,300, 1,500	.20	.096	.049	.036
1,500†	.16	.077	.040	.029
1,600, 1,800	.20	.096	.049	.036
2,000†–3,300†	.20	.096	.049	.036
3,900†–4,000†	.22	.102	.053	.039
4,300†	.25	.119	.061	.045
4,700‡	.25	.119	.061	.045
5,000‡	.25	.119	.061	.045
5,000†	.28	.128	.067	.049
5,600†	.25	.119	.061	.045
6,800†–8,200†	.30	.138	.072	.053
10,000†	.37	.170	.090	.065
10,000‡	.40	.186	.098	.071
10,000†	.27	.123	.064	.046
15,000§	.35	.165	.085	.063
20,000§	.35	.165	.085	.063
30,000§, 40,000§	1.38	.635	.333	.242
50,000§	1.55	.720	.374	.273

Tolerance: *±0.5 pF. †GMV. ‡±20%. §+80, −20%.

TYPE DD3 SHIELDED DUO-KAPS

Three leads—two capacitors in the space formerly needed for one. Shielded to minimize stray capacities between discs. Rated 600 VDC, working; 1200 VDC, test. **Tolerance:** GMV. **Diameter:** DD3-102, DD3-152, .391″; DD3-202, DD3-502, .593″; DD3-103, .719″.

Values, μF	CRL No.	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 10,000 10,000-Up
2 x .001	DD3-102	$0.35	$0.252	$0.161	$0.130
2 x .0015	DD3-152	.35	.252	.161	.130
2 x .002	DD3-202	.63	.370	.236	.190
2 x .005	DD3-502	.63	.370	.236	.190
2 x .01	DD3-103	.72	.420	.270	.216

TYPES CE TEMPERATURE STABLE AND CF SEMI-STABLE DISC HI-KAPS

Offer exceptional stability through an extended temperature range; for applications requiring low capacity change between −55° C and +85° C temperatures. Rated 500 WVDC. Life test, 1000 hours at 1000 VDC at +85° C. Leakage resistance, 10,000 megs, min. initial; 1000 megs, after humidity. Phenolic insulation vacuum impregnated with high temperature wax. Power factor, 2% max. at 1 kHz. Leads #22 tinned copper, 1½″ lg. minimum. Tolerance, ±10%. Only .156″ thick. **Dia.:** 150–470 pF, .290″; 500–800 pF, .390″; 1000 pF, .590″; 1200–1800 pF, .390″; 2000–3900 pF, .590″; 4700–6200 pF, .690″; 8200 and 10K pF, .920″.

Temperature Stable "K"						Temp. Semi-Stable "K"					
Cap. pF	No. CE-	Cap. pF	No. CE-	Cap. pF	No. CE-	Cap. pF	No. CF-	Cap. pF	No. CF-	Cap. pF	No. CF-
150	151	500	501	800	801	1200	122	2200	222	5000	502
220	221	560	561	1000	102	1500	152	3300	332	6200	622
330	331	680	681			1800	182	3900	392	8200	822
470	471	750	751			2000	202	4700	472	10 K	103

CE, CF INDUSTRIAL NET EACH PRICES

Values, pF	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 10,000 10,000-Up
150 thru 500	$0.20	$0.111	$0.059	$0.043
560 thru 1000	.20	.111	.059	.043
1200 thru 2200	.17	.093	.048	.035
3300	.23	.125	.065	.048
3900 thru 5000	.27	.143	.075	.055
6200	.35	.197	.103	.075
8200, 10K	.43	.240	.125	.092

OUR STOCKS ARE COMPLETE AND UP TO DATE. WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS.

LOW VOLTAGE CAPACITORS

Miniature ceramic capacitors designed to meet the demands for high capacity, low voltage applications in transistor circuits. Double durez insulation with high vacuum wax impregnation to withstand extreme temperature, humidity and vibration. Where size permits, capacitors are stamped with capacity and voltage.

TYPE UK ULTRA-KAPS® (3 WVDC) TOL. GMV

Cap., µF	CRL No.	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 10,000 10,000-Up
.1	UK-104	$0.32	$0.170	$0.103	$0.083
.22	UK-224	.30	.160	.097	.078
.47	UK-474	.30	.160	.097	.078
1.0	UK-105	.43	.230	.140	.120
2.2	UK-225	.77	.407	.254	.200

TYPE UK10 ULTRA-KAPS (10 WVDC) TOL. +80, −20%

.05	UK10-503	$0.20	$0.109	$0.067	$0.054
.1	UK10-104	.25	.128	.077	.062
.2	UK10-204	.32	.170	.103	.083
.47	UK10-474	.58	.305	.184	.149

TYPE UK16 ULTRA-KAPS (16 WVDC) TOL. ±20%

.01	UK16-103	$0.20	$0.106	$0.064	$0.051
.022	UK16-223	.20	.106	.064	.051
.033	UK16-333	.20	.106	.064	.051
.05	UK16-503	.22	.114	.070	.055
.068	UK16-683	.25	.128	.077	.062
.1	UK16-104	.27	.145	.088	.070
.15	UK16-154	.32	.166	.102	.082
.2	UK16-204	.38	.200	.120	.096
.3	UK16-304	.58	.311	.188	.152

TYPE UK20 ULTRA-KAPS (20 WVDC) TOL. +80, −20%

.05	UK20-503	$0.23	$0.120	$0.074	$0.059
.1	UK20-104	.28	.152	.092	.074
.2	UK20-204	.55	.290	.176	.141

TYPE UK25 ULTRA-KAPS (25 WVDC) TOL. ±20%

.01	UK25-103	$0.20	$0.106	$0.064	$0.051
.022	UK25-223	.20	.106	.064	.051
.033	UK25-333	.22	.114	.070	.055
.05	UK25-503	.25	.128	.077	.062
.068	UK25-683	.27	.145	.088	.070
.1	UK25-104	.32	.166	.102	.082
.15	UK25-154	.38	.200	.120	.096
.2	UK25-204	.58	.311	.188	.152

TYPE UK50 ULTRA-KAPS (50 WVDC) TOL. ±20%

.01	UK50-103	$0.22	$0.114	$0.070	$0.055
.015	UK50-153	.23	.120	.074	.059
.022	UK50-223	.30	.156	.095	.075
.033	UK50-333	.32	.166	.102	.082
.047	UK50-473	.33	.180	.110	.088
.05	UK50-503	.33	.180	.110	.088
.068	UK50-683	.42	.224	.136	.109
.1	UK50-104	.80	.425	.258	.208

TYPE CK DISC CAPACITORS (50 WVDC) TOL. +80, −20%

.005	CK-502	$0.23	$0.097	$0.043	$0.031
.01	CK-103	.23	.097	.043	.031
.02	CK-203	.25	.200	.091	.066
.025	CK-253	.33	.218	.098	.071
.03	CK-303	.35	.230	.103	.075
.05	CK-503	.38	.248	.110	.080
.1	CK-104	.82	.526	.235	.171

TYPE DDA DISC CAPACITORS (75 WVDC) TOL. +80, −30%

.05	DDA-503	$0.38	$0.248	$0.110	$0.080
.1	DDA-104	.82	.526	.235	.171

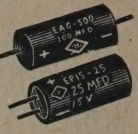
TYPE DDM DISC CAPACITORS (150 WVDC) TOL. +60, −40%

.005	DDM-502	$0.32	$0.137	$0.061	$0.045
.01	DDM-103	.32	.137	.061	.045
.02	DDM-203	.63	.405	.180	.131

TYPE DC DISC CAPACITORS (100 WVDC) TOLERANCE ±20%

Cap., µF	CRL No.	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 10,000 10,000-Up
.005	DC-502	$0.12	$0.059	$0.036	$0.029
.01	DC-103	.13	.074	.045	.036
.02	DC-203	.25	.134	.081	.065
.025	DC-253	.27	.143	.107	.069
.03	DC-303	.28	.162	.114	.073
.05	DC-503	.30	.160	.122	.078
.1	DC-104	.67	.380	.214	.172

LOW VOLTAGE ALUMINUM ELECTROLYTICS



Miniature design directly replaces plastic case and aluminum case types. Offer high capacity in small size. Anode and cathode made of 99.99% pure etched aluminum foil; pre-tinned copper wire leads. Temp. range, −40° C to +85° C operating. Tol.: +100, −0%.

AXIAL LEAD TYPE EA

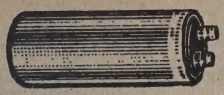
CRL No.*	Size, In. Dia.	Lgth.	Net Each, Lots of 1-99	Pkgs. of 100 100-Up
EA6-2	.215	.687	$0.73	$0.40
EA6-5	.215	.687	.73	.40
EA6-10	.215	.687	.73	.40
EA6-15	.215	.687	.73	.40
EA6-25	.250	.750	.73	.40
EA6-50	.312	.875	.73	.40
EA6-100	.375	.875	.85	.46
EA6-150	.375	1.000	1.02	.56
EA6-250	.375	1.375	1.02	.56
EA6-500	.500	1.125	1.07	.59
EA6-1000	.500	1.750	1.24	.69
EA15-2	.215	.687	.73	.40
EA15-5	.215	.687	.73	.40
EA15-10	.250	.750	.73	.40
EA15-15	.250	.750	.73	.40
EA15-25	.312	.875	.73	.40
EA15-50	.375	.875	.85	.46
EA15-100	.437	1.125	1.02	.56
EA15-150	.473	1.125	1.03	.57
EA15-250	.500	1.125	1.07	.59
EA15-500	.625	1.500	1.18	.66
EA15-1000	.750	2.000	1.72	.96
EA15-2000	.875	2.250	1.75	1.18
EA30-2	.215	.687	.73	.40
EA30-5	.250	.750	.73	.40
EA30-10	.312	.875	.73	.40
EA30-15	.312	.875	.85	.46
EA30-25	.375	.875	1.02	.56
EA30-50	.375	1.125	1.03	.57
EA30-100	.500	1.125	1.17	.64
EA30-150	.500	1.625	1.22	.67
EA30-250	.625	1.625	1.72	.96
EA30-500	.750	2.000	1.80	1.00
EA30-1000	.875	2.000	2.20	1.28
EA50-2	250	.750	.73	.40
EA50-5	.312	.875	.73	.40
EA50-10	.375	.875	.85	.46
EA50-15	.375	1.000	1.02	.56
EA50-25	.375	1.125	1.02	.56
EA50-50	.437	1.375	1.07	.59
EA50-100	.625	1.375	1.17	.64
EA50-150	.625	1.625	1.22	.67
EA50-250	.750	1.875	1.72	.96
EA50-500	.875	2.000	1.80	1.00
EA50-1000	1.000	2.500	2.98	1.67

PRINTED CIRCUIT LEAD TYPE EP

EP6-2	.250	.500	$0.92	$0.53
EP6-5	.250	.500	.92	.53
EP6-10	.250	.500	.92	.53
EP6-25	.250	.500	1.07	.63
EP6-50	.312	.625	1.07	.63
EP6-100	.375	.625	1.20	.71
EP15-2	.250	.500	.92	.53
EP15-5	.250	.500	.92	.53
EP15-10	.250	.500	.92	.53
EP15-25	.312	.625	.92	.53
EP15-50	.375	.750	1.12	.66
EP15-100	.437	.875	1.18	.70
EP30-2	.250	.500	.92	.53
EP30-5	.250	.750	1.12	.66
EP30-10	.312	.625	1.12	.66
EP30-25	.375	.750	1.17	.69
EP30-50	.437	.875	1.25	.74
EP50-2	.250	.500	.92	.53
EP50-5	.312	.500	1.17	.69
EP50-10	.312	.750	1.17	.69
EP50-25	.437	.750	1.18	.70
EP50-50	.500	1.000	1.35	.81

*First number in CRL No. indicates WVDC; suffix number indicates capacitance in µF.

TYPE FAH COMPUTAMITE® COMPUTER GRADE CAPACITORS



High capacitance DC aluminum electrolytics for use where banks of high capacitance filters are required. Long life, with low leakage current, minimum ESR, high 120 Hz ripple currents. Molded terminal block with safety vent seal; provided with screw terminals. With plastic insulating sleeve. Operating temperature −40° C to +85° C. **Tolerance:** 3–50 WVDC, −10 +100%; 51–350 WVDC, −10 +75%; 351–450 WVDC, −10 +50%.

3 VDC RATED—4 VDC SURGE

CDE* Number	Cap., µF	Net Each, Lots of 1-24	25-49	50-99	100 Up
FAH14000-3-A1	14000	$ 2.92	$ 2.29	$ 2.00	$ 1.59
FAH27000-3-A2	27000	3.50	2.78	2.46	1.88
FAH36000-3-A3	36000	4.08	3.29	2.87	2.24
FAH48000-3-A6	48000	5.00	4.00	3.53	2.70
FAH58000-3-B2	58000	5.79	4.64	4.06	3.13
FAH86000-3-B3	86000	6.17	4.93	4.27	3.30
FAH120000-3-B6	120000	7.75	6.22	5.46	4.18
FAH145000-3-C3	145000	8.92	7.14	6.27	4.83
FAH200000-3-C6	200000	12.27	9.81	8.59	6.63
FAH210000-3-D3	210000	13.21	10.57	9.25	7.13
FAH300000-3-D6	300000	18.17	14.53	12.72	9.81

6 VDC RATED—8 VDC SURGE

FAH12000-6-A1	12000	$ 2.92	$ 2.29	$ 2.00	$1.59
FAH20500-6-A2	20500	3.50	2.78	2.46	1.88
FAH31000-6-A3	31000	4.08	3.29	2.87	2.24
FAH47000-6-A6	47000	5.00	4.00	3.53	2.70
FAH50000-6-B2	50000	5.79	4.64	4.06	3.13
FAH78000-6-B3	78000	6.17	4.93	4.27	3.30
FAH110000-6-B6	110000	7.75	6.22	5.46	4.18
FAH125000-6-C3	125000	8.92	7.14	6.27	4.83
FAH190000-6-C6	190000	12.27	9.81	8.59	6.63
FAH190000-6-D3	190000	13.21	10.57	9.25	7.13
FAH275000-6-D6	275000	18.17	14.53	12.72	9.81

10 VDC RATED—12 VDC SURGE

FAH8500-10-A1	8500	$ 2.92	$ 2.29	$ 2.00	$1.59
FAH14500-10-A2	14500	3.50	2.78	2.46	1.88
FAH22000-10-A3	22000	4.08	3.29	2.87	2.24
FAH32000-10-B2	32000	5.79	4.64	4.06	3.13
FAH55000-10-B3	55000	6.17	4.93	4.27	3.30
FAH125000-10-C6	125000	12.27	9.81	8.59	6.63
FAH200000-10-D6	200000	18.17	14.53	12.72	9.81

15 VDC RATED—18 VDC SURGE

FAH6500-15-A1	6500	$ 2.92	$ 2.29	$2.00	$1.59
FAH12000-15-A2	12000	3.50	2.78	2.46	1.88
FAH18000-15-A3	18000	4.08	3.29	2.87	2.24
FAH27000-15-B2	27000	5.79	4.64	4.06	3.13
FAH42500-15-B3	42500	6.17	4.93	4.27	3.30
FAH69000-15-C3	69000	8.92	7.14	6.27	4.83
FAH100000-15-D3	100000	13.21	10.57	9.25	7.13

20 VDC RATED—25 VDC SURGE

FAH4600-20-A1	4600	$ 2.92	$ 2.29	$ 2.00	$1.59
FAH7500-20-A2	7500	3.50	2.78	2.46	1.88
FAH12000-20-A3	12000	4.08	3.29	2.87	2.24
FAH18000-20-A6	18000	5.00	4.00	3.53	2.70
FAH25000-20-B2	25000	5.79	4.64	4.06	3.13
FAH30000-20-B3	30000	6.17	4.93	4.27	3.30
FAH42500-20-B6	42500	7.75	6.22	5.46	4.18
FAH50000-20-C3	50000	8.92	7.14	6.27	4.83
FAH68000-20-C6	68000	12.27	9.81	8.59	6.63
FAH73000-20-D3	73000	13.21	10.57	9.25	7.13
FAH100000-20-D6	100000	18.17	14.53	12.72	9.81

25 VDC RATED—30 VDC SURGE

FAH3700-25-A1	3700	$ 2.92	$ 2.29	$ 2.00	$1.59
FAH6000-25-A2	6000	3.50	2.78	2.46	1.88
FAH11000-25-A3	11000	4.08	3.29	2.87	2.24
FAH24000-25-B3	24000	6.17	4.93	4.27	3.30
FAH39500-25-C3	39500	8.92	7.14	6.27	4.83
FAH59000-25-D3	59000	13.21	10.57	9.25	7.13
FAH84000-25-D6	84000	18.71	14.53	12.72	9.81

30 VDC RATED—40 VDC SURGE

FAH3000-30-A1	3000	$ 2.92	$ 2.29	$ 2.00	$1.59
FAH4900-30-A2	4900	3.50	2.78	2.46	1.88
FAH8000-30-A2	8000	4.08	3.29	2.87	2.24
FAH10000-30-A6	10000	5.00	4.00	3.53	2.70
FAH14000-30-B2	14000	5.79	4.64	4.06	3.13
FAH20000-30-B3	20000	6.17	4.93	4.27	3.30
FAH25000-30-B6	25000	7.75	6.22	5.46	4.18
FAH33000-30-C3	33000	8.92	7.14	6.27	4.83
FAH50000-30-C6	55000	12.27	9.81	8.59	6.63
FAH42500-30-D3	42500	13.21	10.57	9.25	7.13
FAH66000-30-D6	66000	18.17	14.53	12.72	9.81

40 VDC RATED—50 VDC SURGE

FAH6300-40-A3	6300	$4.08	$3.29	$2.87	$2.24
FAH12000-40-B2	12000	5.79	4.64	4.06	3.13
FAH14500-40-B3	14500	6.17	4.93	4.27	3.30
FAH23500-40-C3	23500	8.92	7.14	6.27	4.83

50 VDC RATED—65 VDC SURGE

CDE* Number	Cap., µF	Net Each, Lots of 1-24	25-49	50-99	100 Up
FAH1600-50-A1	1600	$ 2.92	$ 2.29	$ 2.00	$1.59
FAH3000-50-A2	3000	3.50	2.78	2.46	1.88
FAH4500-50-A3	4500	4.08	3.29	2.87	2.24
FAH7000-50-B2	7000	5.79	4.64	4.06	3.13
FAH9500-50-B3	9500	6.17	4.93	4.27	3.30
FAH20000-50-C3	20000	8.92	7.14	6.27	4.83
FAH23000-50-D3	23000	13.21	10.57	9.25	7.13
FAH40000-50-D6	40000	18.17	14.53	12.72	9.81

60 VDC RATED—75 VDC SURGE

FAH1300-60-A1	1300	$ 3.25	$ 2.60	$ 2.28	$ 1.76
FAH2200-60-A2	2200	3.83	3.07	2.66	2.06
FAH3300-60-A3	3300	4.42	3.57	3.14	2.41
FAH4200-60-A6	4200	5.50	4.36	3.80	2.94
FAH6000-60-B2	6000	6.61	5.28	4.62	3.57
FAH8000-60-B3	8000	7.42	5.93	5.19	4.01
FAH10500-60-B6	10500	9.00	7.22	6.34	4.88
FAH12500-60-C3	12500	10.77	8.62	7.54	5.82
FAH16000-60-C6	16000	14.48	11.58	10.14	7.82
FAH18500-60-D3	18500	15.08	12.07	10.60	8.18
FAH26500-60-D6	26500	19.75	15.79	13.80	10.65

75 VDC RATED—95 VDC SURGE

FAH2600-75-A3	2600	$ 4.42	$ 3.57	$ 3.14	$ 2.41
FAH4100-75-B2	4100	6.61	5.28	4.62	3.57
FAH6500-75-B3	6500	7.42	5.93	5.19	4.01
FAH10500-75-C3	10500	10.77	8.62	7.54	5.82
FAH16000-75-D3	16000	15.08	12.07	10.60	8.18
FAH22500-75-D6	22500	19.75	15.79	13.80	10.65

100 VDC RATED—125 VDC SURGE

FAH800-100-A1	800	$ 3.25	$ 2.60	$ 2.28	$1.76
FAH1650-100-A3	1650	4.42	3.57	3.14	2.41
FAH4100-100-B3	4100	7.42	5.93	5.19	4.01
FAH6500-100-C3	6500	10.77	8.62	7.54	5.82
FAH9000-100-C6	9000	14.48	11.58	10.14	7.82

150 VDC RATED—175 VDC SURGE

FAH400-150-A1	400	$ 3.25	$ 2.60	$ 2.28	$ 1.76
FAH1050-150-A3	1050	4.42	3.57	3.14	2.41
FAH1850-150-B2	1850	6.61	5.28	4.62	3.57
FAH2600-150-B3	2600	7.42	5.93	4.19	4.01
FAH4100-150-C3	4100	10.77	8.62	7.54	5.82
FAH5500-150-D3	5500	15.08	12.07	10.60	8.18
FAH8500-150-D6	8500	19.75	15.79	13.80	10.65

200 VDC RATED—250 VDC SURGE

FAH250-200-A1	250	$ 3.25	$ 2.60	$ 2.28	$ 1.76
FAH430-200-A2	430	3.83	3.07	2.66	2.06
FAH640-200-A3	640	4.42	3.57	3.14	2.41
FAH1500-200-B3	1500	7.42	5.93	5.19	4.01
FAH3700-200-D3	3700	15.08	12.07	10.60	8.18
FAH5500-200-D6	5500	19.75	15.79	13.80	10.65

250 VDC RATED—300 VDC SURGE

FAH530-250-A3	530	$ 4.42	$ 3.57	$ 3.14	$ 2.41
FAH1200-250-B3	1200	7.42	5.93	5.19	4.01
FAH3000-250-C6	3000	14.48	11.58	10.14	7.82
FAH4500-250-D6	4500	19.75	15.79	13.80	10.65

300 VDC RATED—350 VDC SURGE

FAH275-300-A2	275	$ 3.83	$ 3.07	$ 2.66	$2.06
FAH1050-300-B3	1050	7.42	5.93	5.19	4.01
FAH2500-300-D3	2500	15.08	12.07	10.60	8.18

350 VDC RATED—400 VDC SURGE

FAH100-350-A1	100	$ 3.25	$ 2.60	$ 2.28	$ 1.76
FAH190-350-A2	190	3.83	3.07	2.66	2.06
FAH420-350-B2	420	6.61	5.28	4.62	3.57
FAH1200-350-B3	650	7.42	5.93	5.19	4.01
FAH1200-350-C3	1200	10.77	8.62	7.54	5.82
FAH1700-350-D3	1700	15.08	12.07	10.60	8.18
FAH2500-350-D6	2500	19.75	15.79	13.80	10.65

400 VDC RATED—475 VDC SURGE

FAH80-400-A1	80	$ 3.25	$ 2.60	$ 2.28	$ 1.76
FAH140-400-A2	140	3.83	3.07	2.66	2.06
FAH200-400-A3	200	4.42	3.57	3.14	2.41
FAH300-400-A6	300	5.50	4.36	3.80	2.94
FAH320-400-B2	320	6.61	5.28	4.62	3.57
FAH500-400-B3	500	7.42	5.93	5.19	4.01
FAH700-400-B6	700	9.00	7.22	6.34	4.88
FAH900-400-C3	900	10.77	8.62	7.54	5.82
FAH1200-400-C6	1200	14.48	11.58	10.14	7.82
FAH1350-400-D3	1350	15.08	12.07	10.60	8.18
FAH1900-400-D6	1900	19.75	15.79	13.80	10.65

450 VDC RATED—525 VDC SURGE

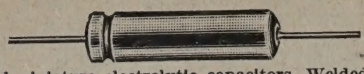
FAH70-450-A1	70	$ 3.25	$ 2.60	$ 2.28	$1.76
FAH180-450-A3	180	4.42	3.57	3.14	2.41
FAH275-450-B2	275	6.61	5.28	4.62	3.57
FAH425-450-B3	425	7.42	5.93	5.19	4.01
FAH1100-450-D3	1100	15.08	12.07	10.60	8.18

*CASE CODE AND UNINSULATED CASE SIZES

Last two digits of CDE No. indicate case size (FAH6500-15-A1). Add 1/16" to dia. and 3/8" to lgth. for size including sleeve.

Code	Size, In. Dia. x L.	Code	Size, In. Dia. x L.
A1	1 3/8 x 2 1/8	C3	2 1/2 x 4 1/8
A2	1 3/8 x 3 1/8	C6	2 1/2 x 5 5/8
A3	1 3/8 x 4 1/8	D3	3 x 4 1/8
B2	2 x 3 1/8	D6	3 x 5 5/8
B3	2 x 4 1/8		

TYPE NLW SUBMINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



Smallest subminiature electrolytic capacitors. Welded construction, hermetically sealed in an aluminum case and provided with plastic insulating sleeve. **Operating Range:** −40° to +105°C. **Tolerance:** −10%, +75%.

CDE No.†	Cap. μF	Size*, In. D. x L.	Net Each, Lots of* 1-24	25-49	50-99	100-249	250-499
NLW 25-3	25	¼ x ½	$0.591	$0.403	$0.322	$0.251	$0.206
NLW 35-3	35	¼ x ½	.591	.403	.322	.251	.206
NLW 75-3	75	5/16 x 5/8	.667	.455	.364	.283	.232
NLW 100-3	100	5/16 x 5/8	.667	.455	.364	.283	.232
NLW 125-3	125	5/16 x 5/8	.667	.455	.364	.283	.232
NLW 150-3	150	5/16 x 5/8	.838	.572	.457	.356	.292
NLW 175-3	175	5/16 x ¾	.838	.572	.457	.356	.292
NLW 200-3	200	5/16 x ¾	.838	.572	.457	.356	.292
NLW 250-3	250	⅜ x ¾	.878	.599	.479	.372	.306
NLW 300-3	300	⅜ x ¾	.878	.599	.479	.372	.306
NLW 350-3	350	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 400-3	400	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 450-3	450	⅜ x ⅞	.954	.650	.520	.405	.332
NLW 500-3	500	⅜ x 1	.954	.650	.520	.405	.332
NLW 1000-3	1000	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 10-6	10	¼ x ½	.591	.403	.322	.251	.206
NLW 20-6	20	¼ x ½	.591	.403	.322	.251	.206
NLW 30-6	30	¼ x ½	.591	.403	.322	.251	.206
NLW 35-6	35	¼ x ½	.591	.403	.322	.251	.206
NLW 40-6	40	¼ x ½	.591	.403	.322	.251	.206
NLW 50-6	50	¼ x ⅝	.667	.455	.364	.283	.232
NLW 100-6	100	5/16 x ⅝	.838	.572	.457	.356	.292
NLW 150-6	150	5/16 x ¾	.878	.599	.479	.372	.306
NLW 175-6	175	5/16 x ¾	.878	.599	.479	.372	.306
NLW 200-6	200	⅜ x ¾	.878	.599	.479	.372	.306
NLW 250-6	250	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 300-6	300	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 350-6	350	⅜ x ⅞	.954	.650	.520	.405	.332
NLW 500-6	500	⅜ x 1¼	.990	.675	.540	.420	.345
NLW 600-6	600	⅜ x 1¼	1.013	.691	.553	.430	.353
NLW 800-6	800	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 8-10	8	¼ x ½	.591	.403	.322	.251	.206
NLW 40-10	40	¼ x ⅝	.591	.403	.322	.251	.206
NLW 50-10	50	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 75-10	75	5/16 x ⅝	.838	.572	.457	.356	.292
NLW 125-10	125	5/16 x ¾	.878	.599	.479	.372	.306
NLW 150-10	150	⅜ x ¾	.914	.623	.499	.388	.319
NLW 225-10	225	⅜ x ⅞	.954	.650	.520	.405	.332
NLW 450-10	450	⅜ x 1¼	1.013	.691	.553	.430	.353
NLW 15-12	15	¼ x ½	.591	.403	.322	.251	.206
NLW 25-12	25	¼ x ½	.591	.403	.322	.251	.206
NLW 30-12	30	¼ x ½	.591	.403	.322	.251	.206
NLW 35-12	35	¼ x ⅝	.591	.403	.322	.251	.206
NLW 40-12	40	¼ x ⅝	.667	.455	.364	.283	.232
NLW 75-12	75	5/16 x ⅝	.838	.572	.457	.356	.292
NLW 100-12	100	5/16 x ¾	.878	.599	.479	.372	.306
NLW 125-12	125	⅜ x ⅝	.878	.599	.479	.372	.306
NLW 175-12	175	⅜ x ¾	.914	.623	.499	.388	.319
NLW 200-12	200	⅜ x ⅞	.954	.650	.520	.405	.332
NLW 250-12	250	⅜ x ⅞	.954	.650	.520	.405	.332
NLW 300-12	300	⅜ x 1	.954	.650	.520	.405	.332
NLW 400-12	400	⅜ x 1¼	1.013	.691	.553	.430	.353
NLW 500-12	500	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 4-16	4	¼ x ½	.591	.403	.322	.251	.206
NLW 5-16	5	¼ x ½	.591	.403	.322	.251	.206
NLW 6-16	6	¼ x ½	.591	.403	.322	.251	.206
NLW 10-16	10	¼ x ½	.591	.403	.322	.251	.206
NLW 15-16	15	¼ x ½	.591	.403	.322	.251	.206
NLW 20-16	20	¼ x ½	.591	.403	.322	.251	.206
NLW 25-16	25	¼ x ⅝	.591	.403	.322	.251	.206
NLW 30-16	30	¼ x ⅝	.667	.455	.364	.283	.232
NLW 40-16	40	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 50-16	50	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 75-16	75	5/16 x ¾	.838	.572	.457	.356	.292
NLW 100-16	100	5/16 x ¾					
NLW 125-16	125	⅜ x ¾	$0.878	$0.599	$0.479	$0.372	$0.306
NLW 150-16	150	⅜ x ¾	.878	.599	.479	.372	.306
NLW 175-16	175	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 200-16	200	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 250-16	250	⅜ x 1	.954	.650	.520	.405	.332
NLW 300-16	300	⅜ x 1¼	.954	.650	.520	.405	.332
NLW 350-16	350	⅜ x 1¼	.990	.675	.540	.420	.345
NLW 400-16	400	⅜ x 1½	.990	.675	.540	.420	.345
NLW 450-16	450	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 600-16	600	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 1-25	1	¼ x ½	1.089	.743	.594	.462	.380
NLW 2-25	2	¼ x ½	.591	.403	.322	.251	.206
NLW 3-25	3	¼ x ½	.591	.403	.322	.251	.206
NLW 5-25	5	¼ x ½	.591	.403	.322	.251	.206
NLW 6-25	6	¼ x ½	.591	.403	.322	.251	.206
NLW 8-25	8	¼ x ½	.591	.403	.322	.251	.206
NLW 10-25	10	¼ x ½	.591	.403	.322	.251	.206
NLW 15-25	15	¼ x ½	.591	.403	.322	.251	.206
NLW 20-25	20	¼ x ⅝	.591	.403	.322	.251	.206
NLW 25-25	25	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 30-25	30	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 35-25	35	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 40-25	40	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 50-25	50	5/16 x ¾	.838	.572	.457	.356	.292
NLW 75-25	75	⅜ x ¾	.838	.572	.457	.356	.292
NLW 100-25	100	⅜ x ¾	.878	.599	.479	.372	.306
NLW 125-25	125	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 150-25	150	⅜ x 1	.914	.623	.499	.388	.319
NLW 175-25	175	⅜ x 1¼	.954	.650	.520	.405	.332
NLW 200-25	200	⅜ x 1¼	1.013	.691	.553	.430	.353
NLW 250-25	250	⅜ x 1½	1.013	.691	.553	.430	.353
NLW 300-25	300	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 1-50	1	¼ x ½	.591	.403	.322	.251	.206
NLW 2-50	2	¼ x ½	.591	.403	.322	.251	.206
NLW 3-50	3	¼ x ½	.591	.403	.322	.251	.206
NLW 4-50	4	¼ x ½	.591	.403	.322	.251	.206
NLW 5-50	5	¼ x ½	.591	.403	.322	.251	.206
NLW 6-50	6	¼ x ½	.591	.403	.322	.251	.206
NLW 8-50	8	¼ x ⅝	.591	.403	.322	.251	.206
NLW 10-50	10	¼ x ⅝	.667	.455	.364	.283	.232
NLW 15-50	15	5/16 x ⅝	.667	.455	.364	.283	.232
NLW 20-50	20	5/16 x ⅝	.838	.572	.457	.356	.292
NLW 25-50	25	5/16 x ¾	.838	.572	.457	.356	.292
NLW 30-50	30	⅜ x ⅝	.878	.599	.479	.372	.306
NLW 35-50	35	⅜ x ¾	.878	.599	.479	.372	.306
NLW 40-50	40	⅜ x ¾	.914	.623	.499	.388	.319
NLW 50-50	50	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 75-50	75	⅜ x 1	.954	.650	.520	.405	.332
NLW 100-50	100	⅜ x 1¼	.990	.675	.540	.420	.345
NLW 125-50	125	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 2-100	2	¼ x ½	.667	.455	.364	.283	.232
NLW 4-100	4	5/16 x ⅝	.746	.509	.407	.316	.260
NLW 5-100	5	5/16 x ⅝	.838	.572	.457	.356	.292
NLW 6-100	6	5/16 x ⅝	.838	.572	.457	.356	.292
NLW 8-100	8	⅜ x ⅝	.878	.599	.479	.372	.306
NLW 10-100	10	⅜ x ¾	.878	.599	.479	.372	.306
NLW 15-100	15	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 20-100	20	⅜ x 1	.954	.650	.420	.405	.332
NLW 25-100	25	⅜ x 1	.990	.675	.540	.420	.345
NLW 30-100	30	⅜ x 1¼	1.013	.691	.553	.430	.353
NLW 40-100	40	⅜ x 1½	1.089	.743	.594	.462	.380
NLW 1-150	1	¼ x ½	.667	.455	.364	.283	.232
NLW 2-150	2	¼ x ⅝	.667	.455	.364	.283	.232
NLW 3-150	3	5/16 x ⅝	.746	.509	.407	.316	.260
NLW 4-150	4	5/16 x ¾	.838	.572	.457	.356	.292
NLW 5-150	5	5/16 x ¾	.838	.572	.457	.356	.292
NLW 6-150	6	⅜ x ¾	.878	.599	.479	.372	.306
NLW 8-150	8	⅜ x ¾	.878	.599	.479	.372	.306
NLW 10-150	10	⅜ x ⅞	.914	.623	.499	.388	.319
NLW 12-150	12	⅜ x 1	.954	.650	.520	.405	.332
NLW 15-150	15	⅜ x 1¼	.954	.650	.520	.405	.332
NLW 18-150	18	⅜ x 1¼	.990	.675	.540	.420	.345
NLW 20-150	20	⅜ x 1½	1.013	.691	.553	.430	.353
NLW 25-150	25	⅜ x 1½	1.089	.743	.594	.462	.380

*Add 1/32" x 1/16" for overall size.

★LARGER QUANTITIES AVAILABLE ON REQUEST

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,

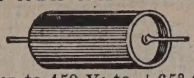
WE CAN SUPPLY ALL YOUR REQUIREMENTS,

OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABILITY.

WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

TYPE WBR WIDE-RANGE TUBULAR ELECTROLYTICS

Aluminum electrolytic capacitors feature welded termination; hermetically sealed, with highly etched cathode and anode foil. With flexible plastic sleeve. **Operating Temperature:** −40° C to +85° C, up to 450 V; to +65° C, up to 700 V.



CDE No. WBR-	Cap., μF	WV DC	Size, In.* Dia. x L.	Net Each, Lots of* 1-24	25-49	50-99	100-249
1000-6	1000	6	5/8 x 1 7/16	$1.69	$1.30	$0.94	$0.71
2000-6	2000	6	3/4 x 1 7/16	1.83	1.40	1.02	.76
3000-10	3000	10	3/4 x 1 11/16	2.03	1.55	1.13	.85
4000-10	4000	10	7/8 x 1 11/16	2.20	1.68	1.22	.92
5000-10	5000	10	7/8 x 2	2.87	2.20	1.60	1.20
10000-10	10,000	10	1 x 2 11/16	3.21	2.46	1.79	1.34
100-16	100	16	5/16 x 3/4	.95	.73	.53	.40
250-16	250	16	3/8 x 1	1.15	.88	.64	.48
500-16	500	16	1/2 x 1 7/16	1.35	1.04	.75	.56
1000-16	1000	16	5/8 x 1 11/16	1.69	1.30	.94	.71
2000-16	2000	16	3/4 x 2	2.03	1.55	1.13	.85
3000-16	3000	16	3/4 x 2 1/2	2.37	1.81	1.32	.99
4000-16	4000	16	7/8 x 2 1/2	2.70	2.07	1.50	1.13
5000-16	5000	16	1 x 2 3/16	3.04	2.33	1.69	1.27
10000-16	10,000	16	1 1/8 x 3 3/16	3.88	2.59	1.88	1.41
10-25	10	25	1/4 x 1/2	.78	.60	.43	.33
25-25	25	25	5/16 x 5/8	.85	.65	.47	.35
50-25	50	25	5/16 x 3/4	.88	.67	.49	.37
100-25	100	25	3/8 x 3/4	1.08	.83	.60	.45
250-25	250	25	1/2 x 1 7/16	1.52	1.17	.85	.64
500-25	500	25	5/8 x 1 7/16	1.98	1.51	1.10	.83
1000-25	1000	25	3/4 x 1 11/16	3.27	2.55	1.82	1.36
2000-25	2000	25	3/4 x 2 1/2	4.03	3.08	2.24	1.68
100-35	100	35	3/8 x 1	1.08	.83	.60	.45
150-35	150	35	1/2 x 1 1/16	1.83	.91	.66	.49
300-35	300	35	5/8 x 1 1/16	1.59	1.22	.88	.66
500-35	500	35	5/8 x 1 7/16	1.98	1.51	1.10	.83
1000-35	1000	35	3/4 x 1 11/16	3.27	2.55	1.82	1.36
2000-35	2000	35	7/8 x 2 1/2	4.03	3.08	2.24	1.68
3000-35	3000	35	1 x 2 1/2	4.62	3.53	2.56	1.92
5500-35	5500	35	1 1/8 x 3 3/16	5.75	4.40	3.20	2.40
1-50	1	50	1/4 x 1/2	.71	.54	.40	.30
2-50	2	50	1/4 x 1/2	.71	.54	.40	.30
5-50	5	50	1/4 x 1/2	.78	.60	.43	.33
10-50	10	50	3/8 x 5/8	.78	.60	.43	.33
25-50	25	50	3/8 x 5/8	.85	.65	.47	.35
35-50	35	50	3/8 x 3/4	.91	.70	.51	.38
50-50	50	50	3/8 x 7/8	.98	.75	.55	.41
100-50	100	50	1/2 x 1 7/16	1.08	.83	.60	.45
125-50	125	50	1/2 x 1 7/16	1.15	.88	.64	.48
150-50	150	50	5/8 x 1 1/16	1.23	.94	.68	.51
250-50	250	50	5/8 x 1 7/16	1.55	1.19	.86	.65
500-50	500	50	3/4 x 1 11/16	2.06	1.57	1.14	.86
1000-50	1000	50	7/8 x 2	3.45	2.64	1.92	1.44
1500-50	1500	50	1 x 2 3/16	4.24	3.24	2.36	1.77
2000-50	2000	50	1 x 2 11/16	4.79	3.66	2.66	2.00
3000-50	3000	50	1 x 4 1/16	5.40	4.12	3.00	2.25
5000-50	5000	50	1 3/8 x 3 5/8	6.40	4.89	3.55	2.67
150-75	150	75	5/8 x 1 7/16	1.49	1.14	.83	.62
275-75	275	75	3/4 x 1 11/16	1.76	1.35	.98	.73
500-75	500	75	7/8 x 2	2.87	2.20	1.60	1.20
1000-75	1000	75	1 x 2 1/2	3.45	2.64	1.92	1.44
2000-75	2000	75	1 3/8 x 2 9/16	5.75	4.40	3.20	2.40
400-100	400	100	7/8 x 2 1/2	2.70	2.07	1.50	1.13
600-100	600	100	1 x 2 11/16	3.04	2.33	1.69	1.27
1000-100	1000	100	1 x 4 1/16	3.45	2.64	1.92	1.44
1500-100	1500	100	1 3/8 x 3 5/8	4.40	3.37	2.44	1.83
2000-100	2000	100	1 3/8 x 4 1/8	5.75	4.40	3.20	2.40
4-150	4	150	5/16 x 3/4	.91	.70	.51	.38
5-150	5	150	3/8 x 5/8	.95	.73	.53	.40
8-150	8	150	3/8 x 3/4	1.01	.78	.56	.42
10-150	10	150	3/8 x 7/8	1.08	.83	.60	.45
16-150	16	150	3/8 x 1	1.12	.86	.62	.47
20-150	20	150	3/8 x 1 1/4	1.18	.91	.66	.49
30-150	30	150	3/8 x 1 1/2	1.28	.98	.71	.54
40-150	40	150	5/8 x 1 7/16	1.59	1.22	.88	.66
50-150	50	150	5/8 x 1 7/16	1.69	1.30	.94	.71
60-150	60	150	5/8 x 1 7/16	$1.79	$1.37	$1.00	$0.75
80-150	80	150	3/4 x 1 7/16	1.89	1.45	1.05	.79
100-150	100	150	3/4 x 1 11/16	1.96	1.50	1.09	.82
150-150	150	150	7/8 x 1 11/16	2.06	1.58	1.15	.86
160-150	160	150	7/8 x 1 11/16	2.129	1.63	1.18	.89
200-150	200	150	7/8 x 2	2.60	1.99	1.45	1.09
250-150	250	150	1 x 1 11/16	2.74	2.10	1.52	1.14
300-150	300	150	1 x 2 3/16	2.87	2.20	1.60	1.20
350-150	350	150	1 x 2 3/16	2.97	2.28	1.65	1.24
500-150	500	150	1 1/8 x 2 1/2	4.05	3.11	2.25	1.69
125-180	125	180	3/4 x 2 1/2	2.63	2.02	1.47	1.10
225-180	225	180	7/8 x 2 1/2	2.84	2.17	1.58	1.18
260-180	260	180	1 x 2 3/16	3.17	2.43	1.77	1.32
400-180	400	180	1 1/8 x 2 1/2	4.23	3.24	2.35	1.76
4-250	4	250	1/2 x 1 1/16	.88	.67	.49	.37
8-250	8	250	1/2 x 1 7/16	1.35	1.04	.75	.56
12-250	12	250	1/2 x 1 7/16	1.39	1.06	.77	.58
16-250	16	250	5/8 x 1 1/16	1.52	1.17	.85	.64
20-250	20	250	3/4 x 1 1/16	1.69	1.30	.94	.71
30-250	30	250	3/4 x 1 7/16	1.76	1.35	.98	.73
40-250	40	250	5/8 x 1 11/16	1.86	1.43	1.03	.78
50-250	50	250	3/4 x 1 11/16	1.93	1.48	1.07	.80
60-250	60	250	3/4 x 2	1.99	1.53	1.11	.83
80-250	80	250	7/8 x 1 11/16	2.30	1.76	1.28	.96
100-250	100	250	7/8 x 2	2.54	1.94	1.41	1.06
160-250	160	250	1 x 2 3/16	2.74	2.10	1.52	1.14
225-250	225	250	1 x 2 11/16	2.84	2.17	1.58	1.18
300-250	300	250	1 x 3 3/16	4.09	3.13	2.28	1.71
450-250	450	250	1 3/8 x 3 1/16	4.70	3.60	2.61	1.96
4-350	4	350	1/2 x 1 1/16	1.35	1.04	.75	.56
8-350	8	350	5/8 x 1 1/16	1.39	1.06	.77	.58
20-350	20	350	3/4 x 1 7/16	1.79	1.37	1.00	.75
40-350	40	350	3/4 x 1 11/16	1.96	1.50	1.09	.82
60-350	60	350	3/4 x 2 1/2	2.37	1.81	1.32	.99
100-350	100	350	1 x 2	2.87	2.20	1.60	1.20
160-350	160	350	1 1/8 x 2 1/2	3.04	2.33	1.69	1.27
200-350	200	350	1 x 4 1/16	3.89	2.98	2.16	1.62
250-350	250	350	1 1/8 x 3 3/16	4.39	3.37	2.44	1.83
1-450	1	450	5/8 x 1 1/16	1.42	1.09	.79	.59
2-450	2	450	5/8 x 1 1/16	1.42	1.09	.79	.59
4-450	4	450	5/8 x 1 1/16	1.45	1.11	.81	.61
5-450	5	450	5/8 x 1 1/16	1.45	1.11	.81	.61
8-450	8	450	3/4 x 1 1/16	1.59	1.22	.88	.66
10-450	10	450	3/4 x 1 1/16	1.59	1.22	.88	.66
12-450	12	450	3/4 x 1 1/16	1.62	1.24	.90	.68
16-450	16	450	3/4 x 1 7/16	1.66	1.27	.92	.69
20-450	20	450	3/4 x 1 11/16	1.69	1.30	.94	.71
30-450	30	450	7/8 x 1 11/16	2.37	1.81	1.32	.99
40-450	40	450	7/8 x 2	2.54	1.94	1.41	1.06
50-450	50	450	7/8 x 2 1/2	2.74	2.10	1.52	1.14
60-450	60	450	1 x 2 3/16	2.81	2.15	1.56	1.17
80-450	80	450	1 x 2 11/16	2.87	2.20	1.60	1.20
100-450	100	450	1 x 3 3/16	3.89	2.98	2.16	1.62
120-450	120	450	1 1/8 x 3	4.23	3.24	2.35	1.76
160-450	160	450	1 1/8 x 4 1/16	4.39	3.37	2.44	1.83
225-450	225	450	1 3/8 x 3 5/8	5.24	4.02	2.91	2.19
1-500	1	500	1/2 x 1 1/16	1.35	1.04	.75	.56
3-500	3	500	1/2 x 1 7/16	1.42	1.09	.79	.59
5-500	5	500	5/8 x 1 1/16	1.52	1.17	.85	.64
8-500	8	500	3/4 x 1 1/16	1.69	1.30	.94	.71
10-500	10	500	5/8 x 1 11/16	1.69	1.30	.94	.71
16-500	16	500	3/4 x 1 11/16	1.86	1.43	1.03	.78
20-500	20	500	3/4 x 2	2.03	1.55	1.13	.85
30-500	30	500	7/8 x 1 11/16	2.54	1.94	1.41	1.06
40-500	40	500	7/8 x 2 1/2	2.70	2.07	1.50	1.13
60-500	60	500	1 x 2 1/2	2.87	2.20	1.60	1.20
4-600	4	600	1 1/16 x 2 7/16†	2.77	2.12	1.54	1.16
8-600	8	600	1 3/16 x 2 7/16†	3.08	2.36	1.71	1.28
10-600	10	600	1 3/16 x 3 3/16†	3.08	2.36	1.71	1.28
16-600	16	600	1 5/16 x 3 3/16†	3.21	2.46	1.79	1.34
20-600	20	600	1 5/16 x 3 11/16†	3.38	2.59	1.88	1.41
10-700	10	700	1 5/16 x 3 3/16†	3.17	2.43	1.77	1.32
16-700	16	700	1 5/16 x 4 5/16†	3.38	2.59	1.88	1.41

*Uninsulated case size; add 1/16" to dia. and 3/16" to lgth. for size including insulating sleeve. †Overall size, including sleeve.

★LARGER QUANTITY PRICES ON REQUEST.

OUR STOCKS ARE COMPLETE AND UP-TO-DATE FOR PROMPT DELIVERY—
SEE CATALOG INDEX FOR OTHER SPRAGUE PRODUCTS ALSO LISTED.
WRITE FOR INFORMATION ON NEW OR UNLISTED ITEMS.

CDE CORNELL-DUBILIER Mica Capacitors

CD6—CD42 DIPPED SILVERED MICAS

Range: −55° C to +125° C. **Temp. Characteristic:** Indicated by 3rd letter in number (e.g., CD10CD050D): C, ±200 ppm/° C (drift, ±0.5%); E, −20 to +100 ppm/° C (drift, ±sum of 0.1% and .1 pF); F, 0 to +70 ppm/° C (drift, ±sum of 0.05% and .1 pF). **Tolerance:** ±5% unless otherwise noted (many values available in ±20%, ±2%, ±1%). **Voltage:** 500 WVDC unless otherwise noted. Only commercial types listed. For MIL type, change prefix CD10 to CM04, CD15 to CM05, CD19 to CM06, CD30 to CM07, or CD42 to CM08. **Note:** CD6 and CD7 types not available in MIL version.

CDE Number*	Cap., pF	Net Each, Lots of 1-24	25-99	100-499	500-999
CD6CD010§	1	$0.363	$0.242	$0.182	$0.151
CD6CD020C§	2	.363	.242	.182	.151
CD6CD030C§	3	.363	.242	.182	.151
CD6CD040C§	4	.363	.242	.182	.151
CD6CD050C§	5	.363	.242	.182	.151
CD6CD060C§	6	.363	.242	.182	.151
CD6CD070C§	7	.363	.242	.182	.151
CD6CD080C§	8	.363	.242	.182	.151
CD6CD090C§	9	.363	.242	.182	.151
CD6CD100K†	10	.363	.242	.182	.151
CD6CD110K†	11	.363	.242	.182	.151
CD6CD120K†	12	.369	.246	.185	.154
CD6CD150K†	15	.369	.246	.185	.154
CD6CD180K†	18	.369	.246	.185	.154
CD6CD200J	20	.411	.274	.205	.171
CD6CD220J	22	.433	.289	.217	.181
CD6ED240J	24	.433	.289	.217	.181
CD6ED270J	27	.433	.289	.217	.181
CD6ED300J	30	.433	.289	.217	.181
CD6ED330J	33	.449	.300	.225	.187
CD6ED360J	36	.449	.300	.225	.187
CD6ED390J	39	.449	.300	.225	.187
CD6ED430J	43	.449	.300	.225	.187
CD6ED470J	47	.449	.300	.225	.187
CD6ED500J	50	.482	.321	.241	.201
CD6ED510J	51	.482	.321	.241	.201
CD6ED560J	56	.482	.321	.241	.201
CD6ED620J	62	.482	.321	.241	.201
CD6ED680J	68	.523	.349	.262	.218
CD6ED750J	75	.523	.349	.262	.218
CD6ED820J‡	82	.539	.360	.270	.225
CD6EC910J‡	91	.539	.360	.270	.225
CD6FC101J‡	100	.539	.360	.270	.225
CD6FC111J‡	110	.555	.370	.278	.231
CD6FC121J‡	120	.555	.370	.278	.231
CD6CA010C#	1	.276	.184	.138	.116
CD6CA020C§#	2	.276	.184	.138	.116
CD6CA030C§#	3	.276	.184	.138	.116
CD6CA040C§#	4	.276	.184	.138	.116
CD6CA050C§#	5	.276	.184	.138	.116
CD6CA060C§#	6	.276	.184	.138	.116
CD6CA070C§#	7	.276	.184	.138	.116
CD6CA080C§#	8	.276	.184	.138	.116
CD6CA090C§#	9	.276	.184	.138	.116
CD6CA100K†#	10	.276	.184	.138	.116
CD6CA110K†#	11	.276	.184	.138	.116
CD6CA120J#	12	.318	.212	.159	.133
CD6CA150J#	15	.324	.216	.163	.135
CD6CA180J#	18	.324	.216	.163	.135
CD6CA200J#	20	.324	.216	.163	.135
CD6CA220J#	22	.331	.220	.166	.138
CD6EA240J#	24	.331	.220	.166	.138
CD6EA270J#	27	.331	.220	.166	.138
CD6EA300J#	30	.334	.223	.167	.139
CD6EA330J#	33	.334	.223	.167	.139
CD6EA360J#	36	.337	.225	.169	.140
CD6EA390J#	39	.337	.225	.169	.140
CD6EA430J#	43	.350	.233	.175	.146
CD6EA470J#	47	.350	.233	.175	.146
CD6EA500J#	50	.363	.242	.182	.151
CD6EA510J#	51	.363	.242	.182	.151
CD6EA560J#	56	.363	.242	.182	.151
CD6EA620J#	62	.372	.248	.186	.155
CD6EA680J#	68	.382	.255	.192	.159
CD6EA750J#	75	.404	.270	.202	.169
CD6EA820J#	82	.427	.285	.214	.178
CD6EA910J#	91	.449	.300	.225	.187
CD6FA101J#	100	.449	.300	.225	.187
CD6FA111J#	110	.501	.334	.250	.209
CD6FA121J#	120	.501	.334	.250	.209
CD7FD131J	130	.562	.375	.281	.234
CD7FD151J	150	.562	.375	.281	.234
CD7FD161J	160	.578	.385	.289	.241
CD7FD181J	180	.587	.392	.294	.245
CD7FC201J‡	200	.620	.413	.310	.258
CD7FC221J‡	220	.652	.434	.326	.272
CD7FC241J‡	240	.674	.449	.337	.281
CD7FC271J‡	270	.716	.477	.358	.299
CD7FC301J‡	300	.738	.492	.369	.308
CD7FA331J#	330	.803	.535	.401	.335
CD7FA361J#	360	.844	.563	.423	.352
CD7FA391J#	390	.844	.563	.423	.352
CD7FA431J#	430	.844	.563	.423	.352
CD7FA471J#	470	.883	.589	.442	.368
CD7FA511J#	510	.924	.616	.462	.385
CD7FA561J#	560	.963	.642	.482	.401
CD7FA621J#	620	1.005	.670	.503	.418
CD7FA681J#	680	1.204	.803	.602	.402
CD7FA751J#	750	1.284	.856	.642	.535
CD7FA821J#	820	1.326	.884	.663	.542
CD7FA911J#	910	1.406	.937	.703	.586
CD7FA102J#	1000	1.566	1.044	.783	.653
CD7FA112J#	1100	1.605	1.070	.803	.669
CD7FA122J#	1200	1.647	1.098	.824	.686
CD7FA132J#	1300	$1.846	$1.231	$0.923	$0.769
CD7FA152J#	1500	2.048	1.365	1.024	.854
CD10CD010D•	1	.372	.248	.186	.155
CD10CD020D•	2	.372	.248	.186	.155
CD10CD030D•	3	.372	.248	.186	.155
CD10CD050D•	5	.372	.248	.186	.155
CD10CD060D•	6	.372	.248	.186	.155
CD10CD070D•	7	.372	.248	.186	.155
CD10CD080D•	8	.372	.248	.186	.155
CD10CD100J	10	.372	.248	.186	.155
CD10CD120J	12	.260	.173	.131	.108
CD10CD150J	15	.260	.173	.131	.108
CD10CD180J	18	.260	.173	.131	.108
CD10ED200J	20	.260	.173	.131	.108
CD10ED220J	22	.260	.173	.131	.108
CD10ED240J	24	.266	.178	.134	.111
CD10ED270J	27	.266	.178	.134	.111
CD10ED300J	30	.266	.178	.134	.111
CD10ED330J	33	.266	.178	.134	.111
CD10ED360J	36	.270	.180	.135	.112
CD10ED390J	39	.270	.180	.135	.112
CD10ED430J	43	.270	.180	.135	.112
CD10ED470J	47	.276	.184	.138	.116
CD10ED500J	50	.276	.184	.138	.116
CD10ED510J	51	.276	.184	.138	.116
CD10ED560J	56	.289	.193	.144	.121
CD10ED620J	62	.289	.193	.144	.121
CD10ED680J	68	.292	.195	.147	.122
CD10ED750J	75	.292	.195	.147	.122
CD10ED820J	82	.295	.197	.148	.123
CD10FD910J	91	.308	.205	.154	.128
CD10FD101J	100	.311	.208	.156	.129
CD10FD111J	110	.311	.208	.156	.129
CD10FD121J	120	.324	.216	.163	.135
CD10FD131J	130	.347	.231	.173	.144
CD10FD151J	150	.382	.255	.192	.159
CD10FD161J	160	.395	.263	.198	.165
CD10FD181J	180	.437	.291	.218	.182
CD10FD201J	200	.469	.312	.234	.196
CD10FD221J	220	.488	.325	.244	.203
CD10FD242J	240	.523	.349	.262	.218
CD10FD251J	250	.539	.360	.270	.225
CD10FC271J‡	270	.504	.336	.253	.210
CD10FC301J‡	300	.555	.370	.278	.231
CD10FA331J#	330	.523	.349	.262	.218
CD10FA361J#	360	.555	.370	.278	.231
CD10FA391J#	390	.591	.394	.295	.246
CD15CD010D•	1	.289	.193	.144	.121
CD15CD020D•	2	.289	.193	.144	.121
CD15CD030D•	3	.289	.193	.144	.121
CD15CD040D•	4	.289	.193	.144	.121
CD15CD050D•	5	.289	.193	.144	.121
CD15CD060D•	6	.289	.193	.144	.121
CD15CD070D•	7	.289	.193	.144	.121
CD15CD080D•	8	.289	.193	.144	.121
CD15CD100J	10	.289	.193	.144	.121
CD15CD120J	12	.289	.193	.144	.121
CD15CD150J	15	.289	.193	.144	.121
CD15CD180J	18	.289	.193	.144	.121
CD15ED200J	20	.234	.156	.118	.097
CD15ED220J	22	.234	.156	.118	.097
CD15ED240J	24	.234	.156	.118	.097
CD15ED270J	27	.234	.156	.118	.097
CD15ED300J	30	.234	.156	.118	.097
CD15ED330J	33	.234	.156	.118	.097
CD15ED360J	36	.234	.156	.118	.097
CD15ED390J	39	.234	.156	.118	.097
CD15ED430J	43	.234	.156	.118	.097
CD15ED470J	47	.234	.156	.118	.097
CD15ED500J	50	.234	.156	.118	.097
CD15ED510J	51	.234	.156	.118	.097
CD15ED560J	56	.234	.156	.118	.097
CD15ED620J	62	.234	.156	.118	.097
CD15ED680J	68	.234	.156	.118	.097
CD15ED750J	75	.234	.156	.118	.097
CD15ED820J	82	.234	.156	.118	.097
CD15FD910J	91	.238	.158	.119	.100
CD15FD101J	100	.238	.158	.119	.100
CD15FD111J	110	.257	.171	.128	.107
CD15FD121J	120	.257	.171	.128	.107
CD15FD131J	130	.273	.182	.137	.113
CD15FD151J	150	.273	.182	.137	.113
CD15FD161J	160	.295	.197	.148	.123
CD15FD181J	180	.318	.212	.159	.133
CD15FD201J	200	.318	.212	.159	.133
CD15FD221J	220	.340	.227	.170	.142
CD15FD241J	240	.363	.242	.182	.151
CD15FD251J	250	.363	.242	.182	.151
CD15FD271J	270	.382	.255	.192	.159
CD15FD301J	300	.404	.270	.202	.169
CD15FD331J	330	.449	.300	.225	.187
CD15FD361J	360	.472	.315	.236	.197
CD15FD391J	390	.491	.327	.246	.204
CD15FD431J	430	.530	.353	.265	.220
CD15FD471J	470	.552	.368	.276	.230
CD15FD501J	500	.594	.396	.297	.247
CD15FD511J	510	.594	.396	.297	.247
CD15FC561J‡	560	.594	.396	.297	.247
CD15FC621J‡	620	.639	.426	.320	.266
CD15FC681J‡	680	.700	.467	.350	.292
CD15FC751J‡	750	.745	.496	.372	.310
CD15FC821J‡	820	.809	.539	.404	.337

*Add final suffix **03** when ordering (e.g., CD10CD050D**03**). †Tol., ±10%. ‡300 WVDC. §Tol., ±1 pF. #100 WVDC.. •Tol., ±5 pF.

SILVERED MICAS CONTINUED ON NEXT PAGE.

CD6—CD42 DIPPED SILVERED MICAS (CONT'D)

CDE Number*	Cap., pF	Net Each, Lots of 1-24	25-99	100-499	500-999
CD15FA911J#	910	$0.700	$0.467	$0.350	$0.292
CD15FA102J#	1000	.767	.511	.384	.320
CD15FA112J#	1100	.831	.554	.416	.347
CD15FA122J#	1200	.896	.597	.448	.373
CD19ED271J	270	.305	.203	.153	.127
CD19ED301J	300	.305	.203	.153	.127
CD19ED331J	330	.305	.203	.153	.127
CD19ED361J	360	.337	.225	.169	.140
CD19ED391J	390	.337	.225	.169	.140
CD19FD431J	430	.337	.225	.169	.140
CD19FD471J	470	.369	.246	.185	.154
CD19FD501J	500	.369	.246	.185	.154
CD19FD511J	510	.369	.246	.185	.154
CD19FD561J	560	.369	.246	.185	.154
CD19FD621J	620	.408	.272	.204	.170
CD19FD681J	680	.408	.272	.204	.170
CD19FD751J	750	.443	.295	.221	.185
CD19FD821J	820	.443	.295	.221	.185
CD19FD911J	910	.482	.321	.241	.201
CD19FD102J	1000	.482	.321	.241	.201
CD19FD112J	1100	.491	.327	.246	.204
CD19FD122J	1200	.491	.327	.246	.204
CD19FD132J	1300	.520	.347	.260	.217
CD19FD152J	1500	.584	.389	.292	.244
CD19FD162J	1600	.610	.407	.305	.255
CD19FD182J	1800	.668	.445	.334	.278
CD19FD202J	2000	.716	.477	.358	.299
CD19FD222J	2200	.751	.501	.376	.314
CD19FD242J	2400	.825	.550	.413	.343
CD19FD252J	2500	.867	.578	.433	.362
CD19FD272J	2700	.912	.608	.456	.380
CD19FD302J	3000	.976	.651	.488	.407
CD19FD332J	3300	1.063	.708	.532	.443
CD19FD362J	3600	1.172	.781	.586	.488
CD19FD392J	3900	1.300	.867	.651	.541
CD19FD432J	4300	1.435	.957	.718	.598
CD19FD472J	4700	1.605	1.070	.803	.669
CD19FD502J	5000	1.618	1.079	.809	.674
CD19FD512J	5100	1.647	1.098	.824	.686
CD19FC562J‡	5600	1.583	1.055	.792	.659
CD19FC622J‡	6200	1.756	1.171	.878	.732
CD19FA682J#	6800	1.916	1.278	.959	.798
CD19FA752J#	7500	2.051	1.367	1.026	.855
CD19FA822J#	8200	2.225	1.483	1.113	.927
CD30FD202J	2000	.610	.407	.305	.275
CD30FD222J	2200	.671	.447	.336	.302
CD30FD242J	2400	.697	.464	.349	.314
CD30FD252J	2500	$0.725	$0.484	$0.363	$0.303
CD30FD272J	2700	.754	.503	.378	.315
CD30FD302J	3000	.825	.550	.413	.343
CD30FD332J	3300	.876	.584	.439	.365
CD30FD362J	3600	.928	.618	.464	.386
CD30FD392J	3900	.979	.653	.490	.408
CD30FD432J	4300	1.034	.689	.517	.431
CD30FD472J	4700	1.124	.749	.562	.469
CD30FD502J	5000	1.188	.792	.594	.495
CD30FD512J	5100	1.188	.792	.594	.495
CD30FD562J	5600	1.294	.862	.647	.539
CD30FD622J	6200	1.400	.933	.700	.583
CD30FD682J	6800	1.557	1.038	.779	.648
CD30FD752J	7500	1.682	1.121	.841	.701
CD30FD822J	8200	1.823	1.216	.912	.760
CD30FD912J	9100	1.945	1.297	.973	.811
CD30FD103J	10,000	2.199	1.466	1.100	.916
CD30FD113J	11,000	2.199	1.466	1.100	.916
CD30FD123J	12,000	2.584	1.723	1.293	1.076
CD30FD133J	13,000	2.809	1.873	1.405	1.171
CD30FD153J	15,000	3.139	2.093	1.570	1.309
CD30FD163J	16,000	3.335	2.223	1.668	1.390
CD30FD183J	18,000	3.692	2.461	1.846	1.539
CD30FD203J	20,000	4.077	2.718	2.038	1.699
CD30FC223J‡	22,000	3.842	2.562	1.922	1.601
CD30FC243J‡	24,000	4.163	2.776	2.082	1.734
CD30FC253J‡	25,000	4.414	2.943	2.207	1.839
CD30FC273J‡	27,000	4.825	3.215	2.413	2.011
CD30FC303J‡	30,000	6.192	4.128	3.097	2.580
CD30FA333J#	33,000	5.156	3.443	2.583	2.152
CD30FA363J#	36,000	6.192	4.128	3.097	2.580
CD42FD203J	20,000	4.430	2.953	2.215	1.846
CD42FD223J	22,000	4.805	3.204	2.403	2.002
CD42FD243J	24,000	5.213	3.475	2.607	2.172
CD42FD273J	27,000	5.634	3.756	2.817	2.348
CD42FD303J	30,000	6.163	4.109	3.082	2.568
CD42FD333J	33,000	6.577	4.385	3.289	2.740
CD42FD363J	36,000	7.088	4.725	3.544	2.953
CD42FD393J	39,000	7.601	5.068	3.801	3.167
CD42FD433J	43,000	8.320	5.547	4.160	3.467
CD42FD473J	47,000	8.869	5.913	4.435	3.696
CD42FD513J	51,000	9.547	6.364	4.773	2.978
CD42FC563J‡	50,000	8.372	5.581	4.186	3.488
CD42FC623J‡	62,000	9.328	6.219	4.664	3.887
CD42FC683J‡	68,000	10.603	7.068	5.302	4.478
CD42FA753J#	75,000	8.731	5.821	4.366	3.638
CD42FA823J#	82,000	9.758	6.506	4.879	4.066
CD42FA913J#	91,000	10.657	7.105	5.329	4.441

*Add final suffix **03** when ordering (e.g., CD19FD362J**03**). ‡300 WVDC. #100 WVDC.
Prices for CD6 (500 WVDC), CD20, CD30 and CD40 on request.

TYPE MCR FILM-WRAP METALLIZED POLYCARBONATE CAPACITORS

Operating Temperature: −55° C to +125° C. with 50% voltage derating. **Tolerance:** ±20%, except as noted. **Capacitance Change:** −2.5%+2% with reference to +25° C measurement. Epoxy end-seal for superior moisture resistance. Non-inductively wound.

DUAL RATED 50-100 WVDC

CDE No.	Cap., µF	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MCR-1P1	.1	$1.089	$0.817	$0.635	$0.545	$0.454
MCR-1P1-10*	.1	1.221	.916	.712	.611	.509
MCR-1P15	.15	1.188	.891	.963	.594	.495
MCR-1P15-10*	.15	1.320	.990	.770	.660	.550
MCR-1P22	.22	1.320	.990	.770	.660	.550
MCR-1P22-10*	.22	1.452	1.089	.847	.726	.605
MCR-1P33	.33	1.452	1.089	.847	.726	.605
MCR-1P33-10*	.33	1.584	1.188	.924	.792	.660
MCR-1P47	.47	1.683	1.262	.982	.842	.701
MCR-1P47-10*	.47	1.848	1.386	1.078	.924	.770
MCR-1P68	.68	1.881	1.411	1.097	.941	.784
MCR-1P68-10*	.68	2.079	1.559	1.213	1.040	.866
MCR-1W1	1.0	2.211	1.658	1.290	1.106	.921
MCR-1W1-10*	1.0	2.442	1.832	1.425	1.221	1.018
MCR-1W1P5	1.5	2.739	2.054	1.598	1.370	1.141
MCR-1W1P5-10*	1.5	3.003	2.252	1.752	1.502	1.251
MCR-1W2	2	3.102	2.327	1.810	1.551	1.293
MCR-1W2-10*	2	3.432	2.574	2.002	1.716	1.430
MCR-1W3	3	3.828	2.871	2.233	1.914	1.595
MCR-1W3-10*	3	4.224	3.168	2.464	2.112	1.760
MCR-1W4	4	4.719	3.539	2.753	2.360	1.966
MCR-1W4-10*	4	5.214	3.911	3.042	2.607	2.173
MCR-1W5	5	5.577	4.183	3.253	2.789	2.324
MCR-1W5-10*	5	6.138	4.604	3.581	3.069	2.558

*±10% tolerance.

600 WVDC

MCR-6S1	.01	$0.858	$0.644	$0.501	$0.429	$0.358
MCR-6S15	.015	.924	.693	5.39	.462	.385
MCR-6S22	.022	1.023	.767	.597	.512	.426
MCR-6S33	.033	1.122	.842	.655	.561	.468
MCR-6S47	.047	1.254	.941	.732	.627	.523
MCR-6S68	.068	1.386	1.040	.809	.693	.578
MCR-6P1	.1	1.518	1.139	.886	.759	.633
MCR-6P15	.15	1.683	1.262	.982	.842	.701
MCR-6P22	.22	1.914	1.436	1.117	.957	.798
MCR-6P33	.33	2.277	1.708	1.328	1.139	.949
MCR-6P47	.47	2.838	2.129	1.656	1.419	1.183
MCR-6P68	.68	3.399	2.549	1.983	1.700	1.416
MCR-6W1	1	4.554	3.416	2.657	2.277	1.898

200 WVDC

CDE No.	Cap., µF	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MCR-2S1	.01	$0.792	$0.594	$0.462	$0.396	$0.330
MCR-2S15	.015	.792	.594	.462	.396	.330
MCR-2S22	.022	.792	.594	.462	.396	.330
MCR-2S33	.033	.792	.594	.462	.396	.330
MCR-2S47	.047	.891	.668	.520	.446	.371
MCR-2S68	.068	.957	.718	.558	.479	.399
MCR-2P1	.1	.990	.743	.578	.495	.413
MCR-2P15	.15	1.089	.817	.635	.545	.454
MCR-2P22	.22	1.188	.891	.693	.594	.495
MCR-2P33	.33	1.320	.990	.770	.660	.550
MCR-2P47	.47	1.518	1.139	.886	.759	.633
MCR-2P68	.68	1.716	1.287	1.001	.858	.715
MCR-2W1	1	2.013	1.510	1.174	1.007	.839
MCR-2W1P5	1.5	2.475	1.856	1.444	1.238	1.031
MCR-2W2	2	2.838	2.129	1.656	1.419	1.183
MCR-2W3	3	3.498	2.624	2.041	1.749	1.458
MCR-2W4	4	4.290	3.218	2.503	2.145	1.788
MCR-2W5	5	5.082	3.812	2.965	2.541	2.118

400 WVDC

MCR-4S1	.01	$0.792	$0.594	$0.462	$0.396	$0.330
MCR-4S15	.015	.792	.594	.462	.396	.330
MCR-4S22	.022	.858	.644	.501	.429	.358
MCR-4S33	.033	.891	.668	.520	.446	.371
MCR-4S47	.047	.990	.743	.578	.495	.413
MCR-4S68	.068	1.056	.792	.616	.528	.440
MCR-4P1	.1	1.155	.866	.674	.578	.481
MCR-4P15	.15	1.320	.990	.770	.660	.550
MCR-4P22	.22	1.518	1.139	.886	.759	.633
MCR-4P33	.33	1.782	1.337	1.040	.891	.743
MCR-4P47	.47	2.178	1.634	1.271	1.089	.908
MCR-4P68	.68	2.541	1.096	1.482	1.271	1.059
MCR-4W1	1.0	3.102	2.327	1.810	1.551	1.293
MCR-4W1P5	1.5	3.894	2.921	2.272	1.947	1.623
MCR-4W2	2	5.148	3.861	3.003	2.574	2.145
MCR-4W3	3	6.237	4.678	3.638	3.119	2.599

TYPE MPY TRI-CLAD® METALLIZED PAPER CAPACITORS

200 WVDC

CDE Number	Cap., µF	Size, In. Dia. x L.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MPY2S22	.022	1/4 x 3/8	$0.51	$0.38	$0.30	$0.255	$0.213
MPY2S33	.033	1/4 x 3/8	.51	.38	.30	.255	.213
MPY2S47	.047	1/4 x 3/8	.51	.38	.30	.255	.213
MPY2S68	.068	5/16 x 3/8	.54	.41	.32	.27	.225
MPY2P1	.1	3/8 x 3/8	.60	.45	.35	.30	.25
MPY2P15	.15	3/8 x 3/8	.63	.47	.37	.32	.263
MPY2P22	.22	15/32 x 3/8	.69	.52	.40	.35	.288
MPY2P33	.33	3/8 x 1 1/16	.75	.56	.44	.38	.313
MPY2P47	.47	7/16 x 1 1/16	.84	.63	.49	.42	.35
MPY2P68	.68	15/32 x 1 1/16	.99	.74	.58	.50	.413
MPY2W1	1.0	9/16 x 1 1/16	1.20	.90	.70	.60	.50
MPY2W1P5	1.5	9/16 x 1 7/16	1.38	1.04	.81	.69	.575
MPY2W2	2.0	5/8 x 1 7/16	1.62	1.22	.95	.81	.675

400 WVDC

MPY4S15	.015	1/4 x 3/8	$0.51	$0.38	$0.30	$0.255	$0.213
MPY4S22	.022	5/16 x 3/8	.51	.38	.30	.255	.213
MPY4S33	.033	3/8 x 3/8	.54	.41	.32	.27	.225
MPY4S47	.047	7/16 x 3/8	.57	.43	.33	.285	.238
MPY4S68	.068	15/32 x 3/8	.60	.45	.35	.30	.250
MPY4P1	.1	3/8 x 1 1/16	.63	.47	.37	.315	.263
MPY4P15	.15	7/16 x 1 1/16	.69	.52	.40	.345	.288
MPY4P22	.22	1/2 x 1 1/16	.81	.61	.47	.405	.338
MPY4P33	.33	9/16 x 1 1/16	.93	.70	.54	.465	.388
MPY4P47	.47	5/8 x 1 7/16	1.05	.79	.61	.525	.438
MPY4P68	.68	5/8 x 1 13/16	1.26	.95	.74	.63	.525
MPY4W1	1.0	11/16 x 1 13/16	1.47	1.10	.86	.735	.613
MPY4W1P5	1.5	25/32 x 2 3/8	1.68	1.26	.98	.84	.703
MPY4W2	2.0	13/16 x 2 3/8	1.92	1.44	1.12	.96	.80

High quality metallized paper dielectric capacitor enclosed in CDE's Tri-Cad case: Cardboard backed with film and aluminum foil. Insures maximum moisture and humidity resistance and minimum size. Solid resin impregnated for optimum performance. Wax-free, non-leaking. Ideal replacement for metal or non-metal case tubular metallized capacitors. **Temperature Range:** −55° C to +125° C. **Tolerance:** ±20%.

600 WVDC

CDE Number	Cap., µF	Size, In. Dia. x L.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MPY6S1	.01	1/4 x 3/8	$0.51	$0.38	$0.30	$0.255	$0.213
MPY6S15	.015	5/16 x 3/8	.54	.41	.32	.27	.225
MPY6S22	.022	3/8 x 3/8	.54	.41	.32	.27	.225
MPY6S33	.033	3/8 x 3/8	.57	.43	.33	.285	.238
MPY6S47	.047	15/32 x 3/8	.60	.45	.35	.30	.25
MPY6S68	.068	3/8 x 1 1/16	.63	.47	.37	.32	.263
MPY6P1	.1	3/8 x 1 1/16	.66	.50	.39	.33	.275
MPY6P15	.15	15/32 x 1 1/16	.84	.63	.49	.42	.35
MPY6P22	.22	9/16 x 1 1/16	.93	.70	.54	.47	.388
MPY6P33	.33	5/8 x 1 1/16	1.17	.88	.68	.59	.488
MPY6P47	.47	5/8 x 1 7/16	1.26	.95	.74	.63	.525
MPY6P68	.68	5/8 x 1 13/16	1.38	1.04	.81	.69	.575
MPY6W1	1.0	33/64 x 1 13/16	1.59	1.19	.93	.80	.663
MPY6W1P5	1.5	13/16 x 2 3/8	1.98	1.49	1.16	.99	.825
MPY6W2	2.0	39/64 x 2 3/8	2.55	1.91	1.49	1.28	1.063

TYPE WMF POLYESTER DIELECTRIC FILM-ENCASED CAPACITORS

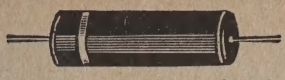
Ultra-compact polyester dielectric in film wrap; thermosetting epoxy end seals. High resistance to humidity. Excellent stability.

Temp: −55° C to +85° C at full voltage: derate 10% at 100° C; 50% at 125° C. **Tol.:** ±10%. Other tolerances also available; prices on request.

CDE No. WMF	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	200-499	500-999*
05P1	.1	50	.250 x .812	$0.39	$0.298	$0.231	$0.195	$0.163
05P12	.12	50	.275 x .812	.396	.302	.235	.198	.165
05P15	.15	50	.285 x .812	.399	.305	.237	.200	.166
05P18	.18	50	.315 x .812	.408	.311	.242	.204	.170
05P22	.22	50	.330 x .812	.423	.323	.251	.212	.176
05P27	.27	50	.390 x .812	.462	.353	.274	.231	.193
05P33	.33	50	.400 x .812	.501	.382	.297	.251	.209
05P39	.39	50	.375 x 1.062	.555	.424	.329	.278	.231
05P47	.47	50	.375 x 1.062	.615	.469	.365	.308	.256
05P5	.50	50	.395 x 1.062	.624	.476	.370	.312	.260
05P56	.56	50	.450 x 1.062	.732	.559	.434	.366	.305
05P68	.68	50	.490 x 1.062	.783	.598	.465	.392	.326
05P82	.82	50	.505 x 1.062	.963	.735	.571	.482	.401
05W1	1.0	50	.500 x 1.375	1.092	.834	.648	.546	.455
05W2	2.0	50	.600 x 1.625	1.809	1.381	1.073	.905	.754
05W3	3.0	50	.730 x 1.625	2.535	1.935	1.504	1.268	1.056
05W4	4.0	50	.760 x 1.875	2.991	2.283	1.775	1.496	1.246
05W5	5.0	50	.850 x 1.875	3.729	2.846	1.213	1.865	1.554
1D1	.001	100	.156 x .50	.318	.243	.189	.159	.133
1D12	.0012	100	.156 x .50	.318	.243	.189	.159	.133
1D15	.0015	100	.156 x .50	.318	.243	.189	.159	.133
1D18	.0018	100	.156 x .50	.318	.243	.189	.159	.133
1D22	.0022	100	.156 x .50	.318	.243	.189	.159	.133
1D27	.0027	100	.156 x .50	.318	.243	.189	.159	.133
1D33	.0033	100	.156 x .50	.318	.243	.189	.159	.133
1D39	.0039	100	.156 x .50	.318	.243	.189	.159	.133
1D47	.0047	100	.156 x .50	.318	.243	.189	.159	.133
1D5	.0050	100	.156 x .50	.318	.243	.189	.159	.133
1D56	.0056	100	.156 x .50	.318	.243	.189	.159	.133
1D68	.0068	100	.175 x .50	.318	.243	.189	.159	.133
1D82	.0082	100	.175 x .50	.318	.243	.189	.159	.133
1S1	.01	100	.200 x .50	.318	.243	.189	.159	.133
1S12	.012	100	.215 x .50	.318	.243	.189	.159	.133
1S15	.015	100	.235 x .50	.318	.243	.189	.159	.133
1S18	.018	100	.255 x .50	.318	.243	.189	.159	.133
1S22	.022	100	.275 x .625	.318	.243	.189	.159	.133
1S27	.027	100	.300 x .625	.318	.243	.189	.159	.133
1S33	.033	100	.300 x .625	.318	.243	.189	.159	.133
1S39	.039	100	.245 x .75	.318	.243	.189	.159	.133
1S47	.047	100	.265 x .75	.327	.250	.194	.164	.136
1S5	.050	100	.270 x .75	.327	.250	.194	.164	.136
1S56	.056	100	.270 x .75	.339	.259	.201	.170	.141
1S68	.068	100	.280 x .75	.348	.266	.206	.174	.145
1S82	.082	100	.270 x .875	.351	.268	.208	.176	.146
1P1	.1	100	.290 x .875	.354	.270	.210	.177	.148
1P12	.12	100	.315 x .875	.357	.273	.212	.179	.149
1P15	.15	100	.335 x .875	.360	.275	.214	.180	.150
1P18	.18	100	.350 x 1.0	.369	.282	.219	.185	.154
1P22	.22	100	.385 x 1.0	.384	.293	.228	.192	.160
1P27	.27	100	.380 x 1.125	.423	.323	.251	.212	.176
1P33	.33	100	.415 x 1.125	.456	.348	.271	.228	.190
1P39	.39	100	.460 x 1.125	.504	.385	.299	.252	.210
1P47	.47	100	.475 x 1.125	.549	.419	.326	.275	.229
1P5	.50	100	.495 x 1.25	.564	.431	.335	.282	.235
1P56	.56	100	.520 x 1.25	.660	.504	.392	.330	.275
1P68	.68	100	.570 x 1.25	.711	.543	.422	.356	.296
1P82	.82	100	.585 x 1.375	.867	.662	.514	.434	.361
1W1	1.0	100	.625 x 1.50	.987	.753	.586	.494	.411
1W1P25	1.25	100	.690 x 1.50	1.131	.863	.671	.566	.471
1W1P5	1.5	100	.715 x 1.625	1.344	1.026	.797	.672	.560
1W2	2.0	100	.800 x 1.625	1.626	1.241	.965	.813	.678
1W3	3.0	100	1.100 x 2.312	2.280	1.740	1.353	1.140	.950
1W4	4.0	100	1.250 x 2.50	2.685	2.050	1.593	1.343	1.119
2D1	.001	200	.156 x .50	.318	.243	.189	.159	.133
2D15	.0015	200	.156 x .50	.318	.243	.189	.159	.133
2D22	.0022	200	.156 x .50	$0.318	$0.243	$0.189	$0.159	$0.133
2D33	.0033	200	.160 x .50	.318	.243	.189	.159	.133
2D47	.0047	200	.170 x .50	.318	.243	.189	.159	.133
2D68	.0068	200	.200 x .50	.318	.243	.189	.159	.133
2S1	.01	200	.230 x .50	.318	.243	.189	.159	.133
2S15	.015	200	.290 x .50	.318	.243	.189	.159	.133
2S22	.022	200	.275 x .625	.318	.243	.189	.159	.133
2S33	.033	200	.270 x .75	.318	.243	.189	.159	.133
2S47	.047	200	.320 x .75	.327	.250	.194	.164	.136
2S68	.068	200	.350 x .75	.348	.266	.206	.174	.145
2P1	.1	200	.410 x .875	.423	.323	.251	.212	.176
2P15	.15	200	.500 x .875	.441	.337	.262	.221	.184
2P22	.22	200	.500 x 1.125	.471	.360	.279	.236	.196
2P33	.33	200	.550 x 1.125	.534	.408	.317	.267	.223
2P47	.47	200	.600 x 1.25	.606	.463	.360	.303	.253
2P68	.68	200	.650 x 1.625	.711	.543	.422	.356	.296
2W1	1.0	200	.750 x 1.75	.987	.753	.586	.494	.411
2W1P25	1.25	200	.825 x 1.75	1.131	.863	.671	.566	.471
2W1P5	1.5	200	.900 x 1.75	1.344	1.026	.797	.672	.560
2W2	2.0	200	.980 x 1.875	1.626	1.241	.965	.813	.678
4D1	.001	400	.156 x .625	.357	.273	.212	.179	.148
4D15	.0015	400	.156 x .625	.357	.273	.212	.179	.148
4D22	.0022	400	.156 x .625	.357	.273	.212	.179	.148
4D33	.0033	400	.190 x .625	.357	.273	.212	.179	.148
4D47	.0047	400	.200 x .625	.357	.273	.212	.179	.148
4D68	.0068	400	.250 x .625	.357	.273	.212	.179	.148
4S1	.01	400	.300 x .625	.357	.273	.212	.179	.148
4S15	.015	400	.360 x .625	.357	.273	.212	.179	.148
4S22	.022	400	.320 x .75	.357	.273	.212	.179	.148
4S33	.033	400	.350 x .875	.357	.273	.212	.179	.148
4S47	.047	400	.400 x .875	.369	.282	.219	.185	.154
4S68	.068	400	.390 x 1.0	.399	.305	.237	.200	.166
4P1	.1	400	.465 x 1.0	.405	.309	.240	.203	.169
4P15	.15	400	.515 x 1.25	.423	.323	.251	.212	.176
4P22	.22	400	.565 x 1.375	.486	.371	.288	.243	.203
4P33	.33	400	.600 x 1.625	.792	.605	.470	.396	.330
4P47	.47	400	.700 x 1.625	.942	.719	.559	.471	.393
4P68	.68	400	.790 x 1.75	1.152	.879	.684	.576	.480
4W1	1.0	400	.875 x 2.0	1.371	1.047	.813	.686	.571
4W1P25	1.25	400	.950 x 2.0	1.503	1.147	.892	.752	.626
4W1P5	1.5	400	.975 x 2.25	1.704	1.301	1.011	.852	.710
4W2	2.0	400	1.250 x 2.25	2.235	1.706	1.326	1.118	.931
6D1	.001	600	.170 x .75	.408	.311	.242	.204	.170
6D15	.0015	600	.170 x .75	.408	.311	.242	.204	.170
6D22	.0022	600	.187 x .75	.408	.311	.242	.204	.170
6D33	.0033	600	.203 x .75	.408	.311	.242	.204	.170
6D47	.0047	600	.234 x .75	.408	.311	.242	.204	.170
6D68	.0068	600	.265 x .75	.408	.311	.242	.204	.170
6S1	.01	600	.290 x .75	.408	.311	.242	.204	.170
6S15	.015	600	.312 x .875	.408	.311	.242	.204	.170
6S22	.022	600	.335 x .875	.408	.311	.242	.204	.170
6S33	.033	600	.350 x 1.0	.408	.311	.242	.204	.170
6S47	.047	600	.415 x 1.0	.408	.311	.242	.204	.170
6S68	.068	600	.500 x 1.0	.429	.327	.255	.215	.179
6P1	.1	600	.520 x 1.375	.531	.405	.315	.266	.221
6P15	.15	600	.625 x 1.375	.555	.424	.329	.278	.231
6P22	.22	600	.660 x 1.625	.630	.481	.374	.315	.263
6P33	.33	600	.687 x 2.0	1.080	.824	.641	.540	.450
6P47	.47	600	.855 x 2.0	1.383	1.056	.821	.692	.576
6P68	.68	600	.970 x 2.0	1.854	1.415	1.100	.927	.773
6W1	1.0	600	1.165 x 2.50	2.925	2.233	1.736	1.463	1.219
6W1P25	1.25	600	1.340 x 2.50	3.159	2.411	1.874	1.580	1.316
6W1P5	1.5	600	1.275 x 3.0	3.828	2.922	2.271	1.914	1.595
6W2	2.0	600	1.460 x 3.0	4.785	3.653	2.839	2.393	1.994

*Larger Quantity Prices on Request

TYPE PKM MOLDED PAPER-POLYESTER TUBULARS



A molded axial lead capacitor with a combination paper-polyester dielectric impregnated with Dykanol® Y, a solid, stable impregnant. Extremely high quality units with high voltage ratings in small case sizes. For use in DC, AC, and pulsed DC applications. **Operating Temperature:** −55° C to +125° C at full rated voltage. **Tolerance:** ±10%.

®Trademark: Dykanol of Cornell-Dubilier; Mylar of DuPont.

400 WVDC

CDE No.	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
PKM4D39	.0039	5/16 x 1	$0.317	$0.228	$0.173	$0.149	$0.124
PKM4D47	.0047	5/16 x 1	.317	.228	.173	.149	.124
PKM4D5	.0050	5/16 x 1	.317	.228	.173	.149	.124
PKM4D56	.0056	5/16 x 1	.317	.228	.173	.149	.124
PKM4D68	.0068	5/16 x 1	.317	.228	.173	.149	.124
PKM4D82	.0082	5/16 x 1	.317	.228	.173	.149	.124
PKM4S1	.01	5/16 x 1	.317	.228	.173	.149	.124
PKM4S12	.012	5/16 x 1	.323	.232	.177	.152	.126
PKM4S25	.025	3/8 x 1 1/4	.346	.248	.190	.162	.135
PKM4S27	.027	3/8 x 1 1/4	.384	.276	.210	.180	.150
PKM4S33	.033	3/8 x 1 1/4	.384	.276	.210	.180	.150
PKM4S39	.039	3/8 x 1 1/4	.384	.276	.210	.180	.150
PKM4S47	.047	7/16 x 1 1/4	.384	.276	.210	.180	.150
PKM4S5	.050	7/16 x 1 1/4	.384	.276	.210	.180	.150
PKM4S56	.056	7/16 x 1 1/4	.384	.276	.210	.180	.150
PKM4S68	.068	7/16 x 1 1/4	.387	.278	.212	.182	.151
PKM4S82	.082	1/2 x 1 1/2	.432	.311	.236	.203	.169
PKM4P1	.1	1/2 x 1 1/2	.445	.320	.243	.209	.174
PKM4P12	.12	1/2 x 1 1/2	.458	.329	.250	.215	.179
PKM4P15	.15	1/2 x 1 1/2	.474	.340	.259	.222	.185
PKM4P18	.18	5/8 x 1 7/8	.618	.444	.338	.290	.241
PKM4P22	.22	5/8 x 1 7/8	.646	.465	.354	.303	.253
PKM4P25	.25	5/8 x 1 7/8	.646	.465	.354	.303	.253
PKM4P27	.27	5/8 x 1 7/8	.656	.472	.359	.308	.256
PKM4P33	.33	5/8 x 1 7/8	.698	.501	.382	.327	.273
PKM4P39	.39	11/16 x 1 15/16	.762	.547	.417	.357	.298
PKM4P47	.47	11/16 x 1 15/16	.816	.587	.446	.383	.319
PKM4P5	.50	11/16 x 1 15/16	.826	.593	.452	.387	.323
PKM4P56	.56	3/4 x 2 1/4	.963	.692	.527	.452	.376
PKM4P68	.68	3/4 x 2 1/4	1.027	.738	.562	.482	.401
PKM4P82	.82	1 x 2 1/8	1.027	.738	.562	.482	.401
PKM4W1	1.0	1 x 2 1/8	1.462	1.051	.800	.686	.571

600 WVDC

PKM6D12	.0012	5/16 x 1	$0.314	$0.225	$0.172	$0.147	$0.123
PKM6D15	.0015	5/16 x 1	.317	.228	.173	.149	.124
PKM6D18	.0018	5/16 x 1	.320	.230	.175	.150	.125
PKM6D22	.0022	5/16 x 1	.320	.230	.175	.150	.125
PKM6D25	.0025	5/16 x 1	.320	.230	.175	.150	.125
PKM6D27	.0027	5/16 x 1	.320	.230	.175	.150	.125
PKM6D33	.0033	5/16 x 1	.320	.230	.175	.150	.125
PKM6D39	.0039	3/8 x 1 1/4	.342	.246	.187	.161	.134
PKM6D5	.0050	3/8 x 1 1/4	.346	.248	.189	.162	.135
PKM6D56	.0056	3/8 x 1 1/4	.349	.251	.191	.164	.136
PKM6D68	.0068	3/8 x 1 1/4	.349	.251	.191	.164	.136
PKM6D82	.0082	3/8 x 1 1/4	.362	.260	.198	.170	.141
PKM6S1	.01	3/8 x 1 1/4	.362	.260	.198	.170	.141
PKM6S12	.012	3/8 x 1 1/4	.362	.260	.198	.170	.141
PKM6S15	.015	3/8 x 1 1/4	.362	.260	.198	.170	.141
PKM6S18	.018	3/8 x 1 1/4	.362	.260	.198	.170	.141
PKM6S22	.022	3/8 x 1 1/4	.368	.265	.201	.173	.144
PKM6S25	.025	7/16 x 1 1/4	.368	.265	.201	.173	.144
PKM6S27	.027	7/16 x 1 1/4	.368	.265	.201	.173	.144
PKM6S33	.033	7/16 x 1 1/4	.378	.271	.207	.177	.148
PKM6S39	.039	1/2 x 1 1/2	.480	.345	.263	.225	.188
PKM6S47	.047	1/2 x 1 1/2	.445	.320	.243	.209	.174
PKM6S5	.050	1/2 x 1 1/2	.445	.320	.243	.209	.174
PKM6S56	.056	1/2 x 1 1/2	.445	.320	.243	.209	.174
PKM6S68	.068	1/2 x 1 1/2	.451	.324	.247	.212	.176
PKM6S82	.082	5/8 x 1 9/16	.541	.389	.296	.254	.211
PKM6P1	.1	5/8 x 1 9/16	.576	.414	.315	.270	.225
PKM6P12	.12	5/8 x 1 7/8	.646	.465	.354	.303	.253
PKM6P15	.15	5/8 x 1 7/8	.678	.488	.371	.318	.265
PKM6P18	.18	11/16 x 1 15/16	.720	.518	.394	.338	.281
PKM6P22	.22	11/16 x 1 15/16	.723	.520	.396	.339	.283
PKM6P25	.25	11/16 x 1 15/16	.813	.584	.445	.381	.318
PKM6P27	.27	11/16 x 1 15/16	.838	.603	.459	.393	.328
PKM6P33	.33	3/4 x 2 1/4	.992	.713	.543	.465	.388
PKM6P39	.39	3/4 x 2 1/4	1.056	.759	.578	.495	.413
PKM6P47	.47	1 x 2 1/8	1.398	1.005	.765	.656	.546
PKM6P5	.50	1 x 2 1/8	1.427	1.026	.781	.669	.558
PKM6P56	.56	1 x 2 1/8	1.475	1.060	.807	.692	.576
PKM6P68	.68	1 x 2 1/8	1.936	1.392	1.059	.908	.756

1000 WVDC

CDE No.	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
PKM10D1	.001	5/16 x 1	$0.314	$0.225	$0.172	$0.147	$0.123
PKM10D5	.0050	3/8 x 1 1/4	.330	.237	.180	.155	.129
PKM10D68	068	3/8 x 1 1/4	.362	.260	.198	.170	.141
PKM10S1	.01	7/16 x 1 1/4	.362	.260	.198	.170	.141
PKM10S15	.015	7/16 x 1 1/4	.365	.262	.200	.171	.143
PKM10S22	.022	1/2 x 1 1/2	.413	.297	.226	.194	.161
PKM10S33	.033	1/2 x 1 1/2	.429	.308	.235	.201	.168
PKM10S47	.047	5/8 x 1 9/16	.560	.403	.306	.263	.219
PKM10S5	.050	5/8 x 1 9/16	.560	.403	.306	.263	.219
PKM10S68	.068	5/8 x 1 7/8	.582	.419	.319	.273	.228
PKM10P1	.1	11/16 x 1 15/16	.662	.476	.362	.311	.259

1600 WVDC

CDE No.	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
PKM16D1	.001	3/8 x 1 1/4	$0.426	$0.306	$0.233	$0.200	$0.166
PKM16D15	.0015	3/8 x 1 1/4	.426	.306	.233	.200	.166
PKM16D22	.0022	3/8 x 1 1/4	.442	.317	.242	.207	.173
PKM16D33	.0033	3/8 x 1 1/4	.442	.317	.242	.207	.172
PKM16D47	.0047	3/8 x 1 1/4	.454	.327	.249	.213	.178
PKM16D5	.005	3/8 x 1 1/4	.454	.327	.249	.213	.178
PKM16D68	.0068	7/16 x 1 1/4	.480	.345	.263	.225	.188
PKM16D82	.0082	7/16 x 1 1/4	.528	.380	.289	.248	.206
PKM16S1	.01	1/2 x 1 1/2	.640	.460	.350	.300	.250
PKM16S15	.015	1/2 x 1 1/2	.640	.460	.350	.300	.250
PKM16S22	.022	5/8 x 1 7/8	.704	.506	.385	.330	.275
PKM16S33	.033	5/8 x 1 7/8	.704	.506	.385	.330	.275
PKM16S47	.047	5/8 x 1 7/8	.880	.633	.481	.413	.344
PKM16S5	.05	5/8 x 1 7/8	1.024	.736	.560	.480	.400

TYPE MMW MINIATURE METALLIZED POLYESTER FILM TUBULARS

Extremely small size for transistorized circuits. Metallized polyester dielectric in tough film wrap and sealed with high-density, thermosetting resin end fill. Extra strong and durable; high capacitance stability, resistance to moisture and humidity. **Temperature Range:** −55° C to +85° C, at rated voltage; to +125° C with derating. **Tolerance:** ±20%. **Size:** Min. .180" dia. x 9/16" lg. to .950" dia. x 1 3/4" lg.

200 WVDC

CDE No. MMW	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
2S33	.033	.180 x .562	$0.684	$0.513	$0.399	$0.342	$0.285
2S47	.047	.200 x .562	.684	.513	.399	.342	.285
2S68	.068	.200 x .687	.714	.536	.417	.357	.298
2P1	.10	.240 x .687	.744	.558	.434	.372	.310
2P15	.15	.280 x .687	.801	.601	.467	.401	.334
2P22	.22	.340 x .687	.891	.668	.520	.446	.371
2P33	.33	.390 x .687	1.011	.758	.590	.506	.421
2P47	.47	.370 x 1.0	1.041	.781	.607	.512	.434
2P68	.68	.420 x 1.0	1.122	.842	.655	.561	.468
2W1	1.0	.500 x 1.0	1.263	.947	.737	.632	.526
2W1P5	1.5	.540 x 1.25	1.515	1.136	.884	.758	.631
2W2	2.0	.620 x 1.25	1.824	1.368	1.064	.912	.760

400 WVDC

4S1	.01	.180 x .562	$0.654	$0.491	$0.382	$0.327	$0.273
4S15	.015	.180 x .687	.684	.513	.399	.342	.285
4S22	.022	.210 x .687	.684	.513	.399	.342	.285
4S33	.033	.250 x .687	.714	.536	.417	.357	.298
4S47	.047	.300 x .687	.744	.558	.434	.372	.310
4S68	.068	.350 x .687	.771	.578	.450	.386	.321
4P1	.10	.325 x 1.0	.831	.623	.485	.416	.346
4P15	.15	.375 x 1.0	.921	.691	.537	.461	.384
4P22	.22	.400 x 1.25	1.011	.758	.590	.506	.421
4P33	.33	.450 x 1.5	1.158	.869	.676	.579	.483
4P47	.47	.520 x 1.5	1.338	1.004	.781	.669	.558
4P68	.68	.625 x 1.5	1.515	1.136	.884	.758	.631
4W1	1.0	.675 x 1.75	1.908	1.431	1.113	.954	.795
4W1P5	1.5	.825 x 1.75	2.385	1.789	1.391	1.193	.994
4W2	2.0	.950 x 1.75	2.892	2.169	1.687	1.446	1.205

600 WVDC

6S1	.01	.200 x .75	$0.684	$0.513	$0.399	$0.342	$0.285
6S15	.015	.250 x .75	.714	.536	.417	.357	.298
6S22	.022	.300 x .75	.744	.558	.434	.372	.310
6S33	.033	.370 x .75	.771	.578	.450	.386	.321
6S47	.047	.325 x 1.062	.831	.623	.485	.416	.346
6S68	.068	.400 x 1.062	.891	.668	.520	.446	.371
6P1	.10	.450 x 1.062	.951	.713	.555	.476	.396
6P15	.15	.475 x 1.25	1.068	.801	.623	.534	.445
6P22	.22	.575 x 1.25	1.248	.936	.728	.624	.520
6P33	.33	.560 x 1.75	1.545	1.159	.901	.773	.644
6P47	.47	.675 x 1.75	1.872	1.404	1.092	.936	.780
6P68	.68	.800 x 1.75	2.274	1.706	1.327	1.137	.948
6W1	1.0	.950 x 1.75	3.003	2.252	1.752	1.502	1.251

CORNELL-DUBILIER HAS A FULL LINE OF CAPACITORS FOR EVERY PURPOSE. WRITE FOR DETAILS ON OTHER CDE PRODUCTS ALSO AVAILABLE.

CORNING® Glass-K™ Ceramic Capacitors

MINIATURE GLASS-K™ CERAMIC CAPACITORS

Smaller capacitance values suitable for more critical circuit functions. **Temp. Range:** −55° C to +125° C. **Ins. Res.:** 100,000 megs or 1,000 megs-μF, whichever is less. **Dissipation Factor:** Stability characteristic T less than 1%; U less than 1.5%; V less than 3%. **WVDC:** 50 V. **Size:** CYK01, 0.100″ dia. x 0.250″ lg.; CYK02, 0.140″ dia. x 0.250″ lg. **Note:** Prices apply to standard capacitance decade values only; non-standard value prices on request.

TYPE CYK01

Corning No. CYK01-	Cap., pF	Tolerance*	Stability Char.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000 Up
BT271	270	J	T	$3.58	$3.31	$2.65	$1.99	$1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT301	300	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT331	330	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT361	360	J†	T	3.58	3.31	2.65	1.99	1.32
		K†	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT391	390	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT471	470	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT511	510	J†	T	3.58	3.31	2.65	1.99	1.32
		K†	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT561	560	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT621	620	J†	T	3.58	3.31	2.65	1.99	1.32
		K†	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT681	680	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT751	750	J†	T	3.58	3.31	2.65	1.99	1.32
		K†	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT821	820	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT102	1000	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT122	1200	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT152	1500	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT182	1800	J	T	3.58	3.31	2.65	1.99	1.32
		K	T	2.55	2.37	1.89	1.41	.94
		M†	T	2.29	2.13	1.69	1.29	.85
BT222	2200	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT272	2700	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT332	3300	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT392	3900	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT472	4700	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT562	5600	J	T	3.94	3.65	2.29	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT682	6800	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT822	8200	J	T	3.94	3.65	2.92	2.10	1.46
		K	T	2.82	2.61	2.09	1.58	1.05
		M†	T	2.52	2.32	1.86	1.40	.93
BT103	10,000	J	T	4.47	4.14	3.31	2.48	1.65
		K	T	3.20	2.97	2.37	1.77	1.17
		M†	T	2.34	2.65	2.12	1.59	1.06
BT123	12,000	K	U	5.06	4.69	3.76	2.82	1.87
		M	U	4.50	4.16	3.34	2.50	1.67
BT153	15,000	K	U	5.06	4.69	3.76	2.82	1.87
		M	U	4.50	4.16	3.34	2.50	1.67
BT183	18,000	K	U	5.06	4.69	3.76	2.82	1.87
		M	U	4.50	4.16	3.34	2.50	1.67
BT203	20,000	K	U	5.06	4.69	3.76	2.82	1.87
		M	U	4.50	4.16	3.34	2.50	1.67
BT223	22,000	K	V	5.62	5.21	4.16	3.12	2.09
BT273	27,000	M	V	5.03	4.66	3.71	2.79	1.86
		K	V	5.62	5.21	4.16	3.12	2.09
BT333	33,000	M	V	5.03	4.66	3.71	2.79	1.86
		K	V	5.62	5.21	4.16	3.12	2.09
BT393	39,000	M	V	5.03	4.66	3.71	2.79	1.86
		K	V	5.62	5.21	4.16	3.12	2.09
BT473	47,000	M	V	5.03	4.66	3.71	2.79	1.86
		K	V	5.62	5.21	4.16	3.12	2.09
BT513	51,000	M	V	5.03	4.66	3.71	2.79	1.86

*For desired tolerance, add **J** (±5%), **K** (±10%), or **M** (±20%) to Part No. †Not normally stocked; available on special order.

TYPE CYK02

Corning No. CYK02-	Cap., pF	Tolerance*	Stability Char.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000 Up
BT123	12,000	J†	T	$7.61	$7.05	$5.64	$4.23	$2.82
		K	T	5.45	5.04	4.04	3.02	2.01
		M	T	4.83	4.49	3.59	2.70	1.78
BT153	15,000	J†	T	7.61	7.05	5.64	4.23	2.82
		K	T	5.45	5.04	4.04	3.02	2.01
		M	T	4.83	4.49	3.59	2.70	1.78
BT183	18,000	J†	T	7.61	7.05	5.64	4.23	2.82
		K	T	5.45	5.04	4.04	3.02	2.01
		M	T	4.83	4.49	3.59	2.70	1.78
BT203	20,000	J†	T	7.61	7.05	5.64	4.23	2.82
		K	T	5.45	5.04	4.04	3.02	2.01
		M	T	4.83	4.49	3.59	2.70	1.78
BU223	22,000	K	U	5.45	5.04	4.04	3.02	2.01
		M	U	4.83	4.49	3.59	2.70	1.78
BU273	27,000	K	U	5.45	5.04	4.04	3.02	2.01
		M	U	4.83	4.49	3.59	2.70	1.78
BU333	33,000	K	U	5.45	5.04	4.04	3.02	2.01
		M	U	4.83	4.49	3.59	2.70	1.78
BU393	39,000	K	U	5.45	5.04	4.04	3.02	2.01
		M	U	4.83	4.49	3.59	2.70	1.78
BV563	56,000	K	V	5.43	4.97	3.61	2.71	1.82
		M	V	4.83	4.43	3.23	2.42	1.61
BV683	68,000	K	V	5.43	4.97	3.61	2.71	1.82
		M	V	4.83	4.43	3.23	2.42	1.61
BV823	82,000	K	V	5.43	4.97	3.61	2.71	1.82
		M	V	4.83	4.43	3.23	2.42	1.61
BV104	100,000	K	V	7.50	6.88	5.00	3.76	2.50
		M	V	6.67	6.11	4.44	3.34	2.22

*For desired tolerance, add **J** (±5%), **K** (±10%), or **M** (±20%) to Part No. †Not normally stocked; available on special order.

MINIATURE BX CAPACITORS

Performance characteristics in accordance with MIL-C-11015. Exclusive glass-ceramic dielectric and unique manufacturing process assure true monolithic structure. Used in bypass, filter and coupling circuits, R-C networks; point of use filtering; suited for automatic insertion. **Temperature Range:** −55° C to +125° C. **Insulation Resistance:** 100,000 megohms or 1,000 megohm-microfarads, whichever is greater. **Dissipation Factor:** 2.5% max. **WVDC:** 50 and 100V. **Size:** CK12, .160″ lg. x .090″ dia.; CK13, .250″ lg. x .090″ dia.; CK14, .390″ lg. x .140″ dia. **Tolerance:** Suffix K, ±10%; M, ±20%.

TYPE CK12

Cap., pF	CK12 BX-	Cap., pF	CK12 BX-	Cap., pF	CK12 BX-	Cap., pF	CK12 BX-
10	100K,M	68	680K,M	470	471K,M	3300	332K,M
12	120K	82	820K	560	561K	3900	392K
15	150K,M	100	101K,M	680	681K,M	4700	472K,M
18	180K	120	121K	820	821K	5600*	562K
22	220K,M	150	151K,M	1000	102K,M	6800*	682K,M
27	270K	180	181K	1200	122K	8200*	822K
33	330K,M	220	221K,M	1500	152K,M	10000*	103K,M
39	390K	270	271K	1800	182K		
47	470K,M	330	331K,M	2200	222K,M		
56	560K	390	391K	2700	272K		

*50 VDC; all others 100 VDC.

TYPE CAMO3M

Cap., pF	CK13 BX-	Cap., pF	CK13 BX-	Cap., pF	CK13 BX-	Cap., pF	CK13 BX-
5600*	562	10,000*	103	18,000	183	33,000	333
6800*	682	12,000	123	22,000	223	39,000	393
8200*	822	15,000	153	27,000	273	47,000	473

*100 VDC; all others 50 VDC.

TYPE CAMO5M

Cap., pF	CK14 BX-	Cap., pF	CK14 BX-	Cap., pF	CK14 BX-	Cap., pF	CK14 BX-
12,000	123	22,000	223	39,000	393	68,000	683
15,000	153	27,000	273	47,000	473	82,000	823
18,000	183	33,000	333	56,000	563	100,000	104

PRICING FOR CK TYPES

Capacitance pF	Tolerance ±	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	1000-Up
CK12							
10–	10%	$0.73	$0.53	$0.41	$0.37	$0.32	$0.275
5600	20%	.67	.48	.37	.34	.29	.245
5700–	10%	.80	.58	.44	.40	.35	.305
10,000	20%	.74	.53	.40	.37	.32	.275
CK13							
5600–	10%	.87	.63	.49	.44	.38	.32
10,000	20%	.80	.57	.44	.41	.34	.29
11,000–	10%	.98	.76	.59	.52	.45	.39
22,000	20%	.88	.68	.53	.465	.40	.35
27,000–	10%	1.15	.90	.69	.61	.53	.46
47,000	20%	1.05	.82	.63	.56	.48	.42
CK14							
12,000–	10%	1.52	1.09	.85	.76	.68	.585
27,000	20%	1.39	1.01	.78	.70	.61	.53
28,000–	10%	1.85	1.33	1.03	.91	.80	.695
47,000	20%	1.64	1.20	.87	.82	.71	.62
56,000–	10%	2.03	1.45	1.14	1.05	.94	.815
100,000	20%	1.85	1.34	1.05	.96	.84	.73

CORNING® Glass Capacitors

CYFM GLASS CAPACITORS

Fusion-sealed, environment-proof capacitors have glass-to-metal seals at leads. Foil and glass element is frozen inside glass. Meet or exceed MIL-C-11272B requirements. Subjected to moisture resistance conditions of MIL-STD-202A, Method 106A for 1200 hours without failure or degradation. **WVDC:** 300 and 500 V, −55° C to +125° C. **Temperature Coefficient:** +140 (±25) ppm/° C at 100 kHz. Varies from +115 ppm/° C at −55° C to +165 ppm/° C at +125° C. Max. deviation, 5 ppm. Drift less than 0.1% or 0.1 pF, whichever is greater. **Tolerance:** Standard, ±5% or ±0.25 pF, whichever is greater; ±10%, ±2% and ±1% on request.

TYPE CYFM10

Size, Min.-Max.: .2969″–.3906″ lg. x .1406″–.2031″ w. x .0469″–.1093″ thick.

No. CYFM-10C-	Cap., pF	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999‡
0R5C†	0.5	$5.36	$4.67	$3.72	$3.37	$2.51
1R0C†	1.0	5.36	4.67	3.72	3.37	2.51
1R5C†	1.5	5.36	4.67	3.72	3.37	2.51
2R2C†	2.2	5.36	4.67	3.72	3.37	2.51
2R7C†	2.7	5.36	4.67	3.72	3.37	2.51
3R0C†	3.0	5.36	4.67	3.72	3.37	2.51
3R3C†	3.3	5.36	4.67	3.72	3.37	2.51
3R6C†	3.6	5.36	4.67	3.72	3.37	2.51
3R9C†	3.9	5.36	4.67	3.72	3.37	2.51
4R3C†	4.3	5.36	4.67	3.72	3.37	2.51
4R7C†	4.7	5.36	4.67	3.72	3.37	2.51
5R1C†	5.1	5.36	4.67	3.72	3.37	2.51
5R6C†	5.6	5.36	4.67	3.72	3.37	2.51
6R2C†	6.2	5.36	4.67	3.72	3.37	2.51
6R8C†	6.8	5.36	4.67	3.72	3.37	2.51
7R5C†	7.5	5.36	4.67	3.72	3.37	2.51
8R2C†	8.2	5.36	4.67	3.72	3.37	2.51
9R1C†	9.1	5.36	4.67	3.72	3.37	2.51
100C†	10	5.36	4.67	3.72	3.37	2.51
110C†	11	5.36	4.67	3.72	3.37	2.51
120C†	12	5.36	4.67	3.72	3.37	2.51
130J	13	2.05	1.78	1.29	.99	.96
150J	15	2.05	1.78	1.29	.99	.96
160J	16	2.05	1.78	1.29	.99	.96
180J	18	2.05	1.78	1.29	.99	.96
200J	20	2.05	1.78	1.29	.99	.96
220J	22	2.05	1.78	1.29	.99	.96
240J	24	2.05	1.78	1.29	.99	.96
270J	27	2.05	1.78	1.29	.99	.96
300J	30	2.05	1.78	1.29	.99	.96
330J	33	2.05	1.78	1.29	.99	.96
360J	36	2.05	1.78	1.29	.99	.96
390J	39	2.05	1.78	1.29	.99	.96
430J	43	2.05	1.78	1.29	.99	.96
470J	47	2.05	1.78	1.29	.99	.96
510J	51	2.05	1.78	1.29	.99	.96
560J	56	2.05	1.78	1.29	.99	.96
620J	62	2.05	1.78	1.29	.99	.96
680J	68	2.05	1.78	1.29	.99	.96
750J	75	2.05	1.78	1.29	.99	.96
820J	82	2.05	1.78	1.29	.99	.96
910J	91	2.05	1.78	1.29	.99	.96
101J	100	4.28	3.73	2.97	2.69	2.00
111J	110	4.28	3.73	2.97	2.69	2.00
121J	120	4.28	3.73	2.97	2.69	2.00
131J	130	4.28	3.73	2.97	2.69	2.00
151J	150	4.28	3.73	2.97	2.69	2.00
161J	160	4.28	3.73	2.97	2.69	2.00
181J	180	4.28	3.73	2.97	2.69	2.00
201J	200	4.28	3.73	2.97	2.69	2.00
221J*	220	4.28	3.73	2.97	2.69	2.00
241J*	240	4.28	3.73	2.97	2.69	2.00
271J*	270	4.28	3.73	2.97	2.69	2.00
301J*	300	4.28	3.73	2.97	2.69	2.00

TYPE CYFM15

Use prefix CYFM-15-C; Size, Min.-Max.: .4219″–.5156″ lg. x .2344″–.2968″ w. x .0625″–.1562″ thick.

No. CYFM-15C-	Cap., pF	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999‡
221J	220	$2.57	$2.24	$1.78	$1.62	$1.20
241J	240	2.57	2.24	1.78	1.62	1.20
271J	270	2.57	2.24	1.78	1.62	1.20
301J	300	2.57	2.24	1.78	1.62	1.20
331J	330	2.57	2.24	1.78	1.62	1.20
361J	360	2.57	2.24	1.78	1.62	1.20
391J	390	2.57	2.24	1.78	1.62	1.20
431J	430	2.57	2.24	1.78	1.62	1.20
471J	470	3.53	3.08	2.45	2.22	1.65
511J	510	3.53	3.08	2.45	2.22	1.65
561J*	560	3.53	3.08	2.45	2.22	1.65
621J*	620	3.53	3.08	2.45	2.22	1.65
681J*	680	3.53	3.08	2.45	2.22	1.65
751J*	750	3.53	3.08	2.45	2.22	1.65
821J*	820	3.53	3.08	2.45	2.22	1.65
911J*	910	3.53	3.08	2.45	2.22	1.65
102J*	1000	3.53	3.08	2.45	2.22	1.65
112J*	1100	4.50	3.92	3.12	2.83	2.10
122J*	1200	4.50	3.92	3.12	2.83	2.10

*300 WVDC. †Tolerance ±0.25 pF; all others ±5%. ‡1000 Up prices on request.

TYPE TYO GLASS CAPACITORS

Upright flush mounting in printed circuits with minimum rocking; or, point-to-point wiring. Glass dielectric and foil fused to form single element with high stability. Gold-plated 1¼″ Dumet leads spaced 0.2″. General performance to MIL-C-11272B. **WVDC:** 300 V, −55° C to +125° C. **Temperature Coefficient:** +140 (±25) ppm/° C at 100 kHz. Varies from +115 ppm/° C at −55° C to +165 ppm/° C at +125° C. Maximum deviation at any temperature, 5 ppm. Drift less than 0.1% or 0.1 pF, whichever is greater. **Tol.:** Suffix **J**, ±5%; **K**, ±10% and **C**, ±0.25 pF; ±20%, ±2%, ±1% on request.

TYPE TYO6

Size: .300″ lg. x .200″ w. x .115″ thick. Weight, 0.3–0.4 gram.

Corn. No. CY06-	Cap., pF	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999§
1R0C	1.0	$5.33	$4.64	$3.70	$3.35	$2.49
1R5C	1.5	5.33	4.64	3.70	3.35	2.49
2R2C	2.2	5.33	4.64	3.70	3.35	2.49
2R7C	2.7	5.12	4.46	3.55	3.22	2.39
3R0C	3.0	5.12	4.46	3.55	3.22	2.39
3R3C	3.3	5.12	4.46	3.55	3.22	2.39
3R6C	3.6	5.12	4.46	3.55	3.22	2.39
3R9C	3.9	5.12	4.46	3.55	3.22	2.39
4R3C	4.3	5.12	4.46	3.55	3.22	2.39
4R7C	4.7	4.93	4.29	3.42	3.10	2.31
5R1J	5.1	4.37	3.81	3.03	2.75	2.04
5R6J	5.6	4.37	3.81	3.03	2.75	2.04
6R2J	6.2	4.37	3.81	3.03	2.75	2.04
6R8J	6.8	4.37	3.81	3.03	2.75	2.04
7R5J	7.5	4.28	3.73	2.97	2.69	2.00
8R2J	8.2	4.28	3.73	2.97	2.69	2.00
9R1J	9.1	4.28	3.73	2.97	2.69	2.00
100J	10	1.83	1.59	1.27	1.15	.86
100K	10	1.46	1.27	1.01	.92	.68
110J	11	1.83	1.59	1.27	1.15	.86
110K	11	1.46	1.27	1.01	.92	.68
120J	12	1.83	1.59	1.27	1.15	.86
120K	12	1.46	1.27	1.01	.92	.68
130J	13	1.86	1.62	1.29	1.17	.87
130K	13	1.46	1.27	1.01	.92	.68
150J	15	1.86	1.62	1.29	1.17	.87
150K	15	1.46	1.27	1.01	.92	.68
160J	16	1.86	1.62	1.29	1.17	.87
160K	16	1.46	1.27	1.01	.92	.68
180J	18	1.86	1.62	1.29	1.17	.87
180K	18	1.46	1.27	1.01	.92	.68
200J	20	1.86	1.62	1.29	1.17	.87
200K	20	1.46	1.27	1.01	.92	.68
220J	22	1.86	1.62	1.29	1.17	.87
220K	22	1.46	1.27	1.01	.92	.68
240J	24	1.86	1.62	1.29	1.17	.87
240K	24	1.46	1.27	1.01	.92	.68
270J	27	1.92	1.67	1.33	1.21	.90
270K	27	1.58	1.38	1.10	.99	.74
300J	30	1.92	1.67	1.33	1.21	.90
300K	30	1.58	1.38	1.10	.99	.74

TYPE CYFM20

Size, Min.-Max.: .6719″–.7968″ lg. x .3750″–.4687″ w. x .0938″–.1875″ thick.

No. CYFM-20C-	Cap., pF	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999‡
561J	560	$3.75	$3.27	$2.60	$2.36	$1.75
621J	620	3.75	3.27	2.60	2.36	1.75
681J	680	3.75	3.27	2.60	2.36	1.75
751J	750	3.75	3.27	2.60	2.36	1.75
821J	820	3.75	3.27	2.60	2.36	1.75
911J	910	3.75	3.27	2.60	2.36	1.75
102J	1000	3.75	3.27	2.60	2.36	1.75
112J	1100	3.75	3.27	2.60	2.36	1.75
122J	1200	5.15	4.48	3.57	3.24	2.41
132J	1300	5.15	4.48	3.57	3.24	2.41
152J	1500	5.15	4.48	3.57	3.24	2.41
162J	1600	5.15	4.48	3.57	3.24	2.41
182J	1800	5.15	4.48	3.57	3.24	2.41
202J	2000	5.15	4.48	3.57	3.24	2.41
222J	2200	5.15	4.48	3.57	3.24	2.41
242J	2400	5.15	4.48	3.57	3.24	2.41
272J	2700	5.15	4.48	3.57	3.24	2.41
302J	3000	5.15	4.48	3.57	3.24	2.41
332J	3300	6.57	5.72	4.56	4.13	3.07
362J	3600	6.57	5.72	4.56	4.13	3.07
392J*	3900	6.57	5.72	4.56	4.13	3.07
432J*	4300	6.57	5.72	4.56	4.13	3.07
472J*	4700	6.57	5.72	4.56	4.13	3.07
512J*	5100	6.57	5.72	4.56	4.13	3.07

TYPE CYFM30

Size, Min.-Max.: .7032″–.8281″ lg. x .6719″–.8281″ w. x .0938″–.1875″ thick.

No. CYFM-30C-	Cap., pF	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999‡
362J	3600	$7.01	$6.10	$4.86	$4.41	$3.28
392J	3900	7.01	6.10	4.86	4.41	3.28
432J	4300	7.01	6.10	4.86	4.41	3.28
472J	4700	7.01	6.10	4.86	4.41	3.28
512J	5100	7.01	6.10	4.86	4.41	3.28
562J	5600	7.01	6.10	4.86	4.41	3.28
622J	6200	7.01	6.10	4.86	4.41	3.28
682J	6800	7.78	6.78	5.40	4.89	3.64
752J*	7500	7.78	6.78	5.40	4.89	3.64
822J*	8200	9.33	8.13	6.47	5.87	4.36
912J*	9100	9.33	8.13	6.47	5.87	4.36
103J*	10000	9.33	8.13	6.47	5.87	4.36

TYPE TY06 (CONTINUED)

Corn. No. CY06-	Cap., pF	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999§
330J	33	$1.92	$1.67	$1.33	$1.21	$0.90
330K	33	1.58	1.38	1.10	.99	.74
360J	36	1.92	1.67	1.33	1.21	.90
360K	36	1.58	1.38	1.10	.99	.74
390J	39	1.92	1.67	1.33	1.21	.90
390K	39	1.58	1.38	1.10	.99	.74
430J	43	1.92	1.67	1.33	1.21	.90
430K	43	1.58	1.38	1.10	.99	.74
470J	47	1.92	1.67	1.33	1.21	.90
470K	47	1.58	1.38	1.10	.99	.74
510J	51	1.92	1.67	1.33	1.21	.90
510K	51	1.58	1.38	1.10	.99	.74
560J	56	1.92	1.67	1.33	1.21	.90
560K	56	1.58	1.38	1.10	.99	.74
620J	62	1.92	1.67	1.33	1.21	.90
620K	62	1.58	1.38	1.10	.99	.74
680J	68	1.92	1.67	1.33	1.21	.90
680K	68	1.58	1.38	1.10	.99	.74
750J	75	1.92	1.67	1.33	1.21	.90
750K	75	1.58	1.38	1.10	.99	.74
820J	82	1.92	1.67	1.33	1.21	.90
820K	82	1.58	1.38	1.10	.99	.74
910J	91	1.92	1.67	1.33	1.21	.90
910K	91	1.58	1.38	1.10	.99	.74
101J	100	1.92	1.67	1.33	1.21	.90
101K	100	1.58	1.38	1.10	.99	.74
111J	110	2.42	2.11	1.68	1.52	1.13
111K	110	1.71	1.49	1.18	1.07	.80
121J	120	2.42	2.11	1.68	1.52	1.13
121K	120	1.71	1.49	1.18	1.07	.80
131J	130	2.42	2.11	1.68	1.52	1.13
131K	130	1.71	1.49	1.18	1.07	.80
151J	150	2.42	2.11	1.68	1.52	1.13
151K	150	1.71	1.49	1.18	1.07	.80
161J	160	2.42	2.11	1.68	1.52	1.13
161K	160	1.71	1.49	1.18	1.07	.80
181J	180	2.42	2.11	1.68	1.52	1.13
181K	180	1.71	1.49	1.18	1.07	.80
201J	200	2.42	2.11	1.68	1.52	1.13
201K	200	1.71	1.49	1.18	1.07	.80
221J	220	2.42	2.11	1.68	1.52	1.13
221K	220	1.71	1.49	1.18	1.07	.80
241J	240	2.42	2.11	1.68	1.52	1.13
241K	240	1.71	1.49	1.18	1.07	.80
271J	270	2.42	2.11	1.68	1.52	1.13
271K	270	1.71	1.49	1.18	1.07	.80
301J	300	2.42	2.11	1.68	1.52	1.13
301K	300	1.71	1.49	1.18	1.07	.80
331J	330	2.42	2.11	1.68	1.52	1.13
331K	330	1.71	1.49	1.18	1.07	.80
361J	360	2.42	2.11	1.68	1.52	1.13
361K	360	1.71	1.49	1.18	1.07	.80
391J	390	2.42	2.11	1.68	1.52	1.13
391K	390	1.71	1.49	1.18	1.07	.80
431J	430	2.42	2.11	1.68	1.52	1.13
431K	430	1.71	1.49	1.18	1.07	.80
471J	470	2.42	2.11	1.68	1.52	1.13
471K	470	1.71	1.49	1.18	1.07	.80
511J	510	2.42	2.11	1.68	1.52	1.13
511K	510	1.71	1.49	1.18	1.07	.80
561J	560	2.42	2.11	1.68	1.52	1.13
561K	560	1.71	1.49	1.18	1.07	.80

TYPE TY07

Use prefix TY07-C; .300″ lg. x .300″ w. x .115″ thick. Weight, 0.4–0.5 gram.

621J	620	$2.54	$2.21	$1.76	$1.60	$1.19
621K	620	1.71	1.49	1.18	1.07	.80
681J	680	2.54	2.21	1.76	1.60	1.19
681K	680	1.71	1.49	1.18	1.07	.80
751J	750	2.54	2.21	1.76	1.60	1.19
751K	750	1.71	1.49	1.18	1.07	.80
821J	820	2.54	2.21	1.76	1.60	1.19
821K	820	1.71	1.49	1.18	1.07	.80
911J	910	2.67	2.32	1.85	1.68	1.25
911K	910	1.71	1.49	1.18	1.07	.80
102J	1000	2.67	2.32	1.85	1.68	1.25
102K	1000	1.71	1.49	1.18	1.07	.80

TYPE TY08

Use prefix TY08-; .500″ lg. x .300″ w. x .115″ thick. Weight, 0.7–0.8 gram.

112J	1100	$3.13	$2.73	$2.17	$1.97	$1.46
122J	1200	3.31	2.73	2.17	1.97	1.46
132J	1300	3.13	2.73	2.17	1.97	1.46
152J	1500	3.13	2.73	2.17	1.97	1.46
162J	1600	3.88	3.38	2.69	2.44	1.81
182J	1800	3.88	3.38	2.69	2.44	1.81
202J	2000	3.88	3.38	2.69	2.44	1.81
222J	2200	4.74	4.13	3.29	2.98	2.22
242J	2400	4.74	4.13	3.29	2.98	2.22

§1000–4999 prices on request.

CORNING® Ceramic Capacitors

TYPE CAC CERAMIC CAPACITORS

TYPE CAC__X7R

Miniature, axial-lead, monolithic ceramic capacitors designed for commercial and industrial applications where space and weight are at a premium. Ideally suited for automatic insertion. **Temp. Coef.:** ±15% from −55° C to +125° C. **Capacity Tolerance:** K = ±10%, M = ±20%. **Dissipation Factor:** 2.5% max. **Ins. Res.:** 100,000 megs or 1000 megohm-microfarads, whichever is less. **WVDC:** 50 and 100 volts.

TYPE CAC02X7R

Size: .100″ dia. x .190″ lg.

Cap., pF	CAC02-X7R-	Cap., pF	CAC02-X7R-	Cap., pF	CAC02-X7R-	Cap., pF	CAC02-X7R-
10	100	82	820	680	681	5600	562
12	120	100	101	820	821	5600*	562
1	150	120	121	1000	102	6800	682
18	180	150	151	1200	122	6800*	682
22	220	180	181	1500	152	8200*	822
27	270	220	221	1800	182	10,000*	103
33	330	270	271	2200	222	12,000*	123
39	390	330	331	2700	272	15,000*	153
47	470	390	391	3300	332	18,000*	183
56	560	470	471	3900	392	22,000*	223
68	680	560	561	4700	472		

*50 VDC; all others 100 VDC.

TYPE CAC03X7R

Size: .100″ dia. x .290″ lg.

Cap., pF	CAC03-X7R-	WV DC	Cap., pF	CAC03-X7R-	WV DC	Cap., pF	CAC03-X7R-	WV DC
5600	562	100	12,000	123	100	22,000	223	50
6800	682	100	12,000	123	50	27,000	273	50
8200	822	100	15,000	153	50	33,000	333	50
10,000	103	100	15,000	153	50	39,000	393	50
10,000	103	50	18,000	183	50	47,000	473	50

TYPE CAC04X7R

Size: .145″ dia. x .290″ lg.

Cap., pF	CAC04-X7R-	WV DC	Cap., pF	CAC04-X7R-	WV DC	Cap., pF	CAC04-X7R-	WV DC
10,000	103	100	27,000	273	100	56,000	563	50
12,000	123	100	33,000	333	100	68,000	683	50
15,000	153	100	39,000	393	100	82,000	823	50
18,000	183	100	47,000	473	100	100,000	104	50
22,000	223	100	47,000	473	50			

TYPE CAC05X7R

Size: .145″ dia. x .420″ lg.

Cap., pF	CAC05-X7R-	WV DC	Cap., pF	CAC05-X7R-	WV DC	Cap., pF	CAC05-X7R-	WV DC
10,000	103	100	47,000	473	100	100,000	104	100
12,000	123	100	47,000	473	50	100,000	104	50
15,000	153	100	56,000	563	100	120,000	124	50
18,000	183	100	56,000	563	50	150,000	154	50
22,000	223	100	68,000	683	100	180,000	184	50
27,000	273	100	68,000	683	50	220,000	224	50
33,000	333	100	82,000	823	100	270,000	274	50
39,000	393	100	82,000	823	50			

TYPE CAC__Z5U

Same as the preceding X7R type, but intended for general purpose use. **Temp. Coef.:** +22%, −56% from +10° C to +85° C. **Capacity Tolerance:** M = ±20%; Z = +80%, −20%. **Dissipation Factor:** 3% max. **Ins. Res.:** 10,000 megs or 100 megohm-microfarads, whichever is less. **WVDC:** 50 and 100 volts.

TYPE CAC02Z5U

Size: .100″ dia. x .190″ lg.

Cap., pF	CAC02-Z5U-	WV DC	Cap., pF	CAC02-Z5U-	WV DC	Cap., pF	CAC02-Z5U-	WV DC
1000	102	100	3900	392	100	15,000	153	100
1200	122	100	4700	472	100	18,000	183	100
1500	152	100	5600	562	100	22,000	223	100
1800	182	100	6800	682	100	27,000	273	50
2200	222	100	8200	822	100	33,000	333	50
2700	272	100	10,000	103	100	39,000	393	50
3300	332	100	12,000	123	100	47,000	473	50

TYPE CAC03Z5U

Size: .100″ dia. x .290″ lg.

Cap., pF	CAC03-Z5U-	WV DC	Cap., pF	CAC03-Z5U-	WV DC	Cap., pF	CAC03-Z5U-	WV DC
10,000	103	100	27,000	273	100	56,000	563	50
12,000	123	100	33,000	333	100	68,000	683	50
15,000	153	100	39,000	393	100	82,000	823	50
18,000	183	100	47,000	473	100	100,000	104	50
22,000	223	100	56,000	563	100	120,000	124	50

TYPE CAC04Z5U

Size: .145″ dia. x .290″ lg.

Cap., pF	CAC04-Z5U-	WV DC	Cap., pF	CAC04-Z5U-	WV DC	Cap., pF	CAC04-Z5U-	WV DC
68,000	683	100	120,000	124	100	220,000	224	50
82,000	823	100	120,000	124	50	270,000	274	50
100,000	104	100	150,000	154	50			
100,000	104	50	180,000	184	50			

PRICING

Series No.	Cap. Range pF	WV DC V.	Tolerance ± %	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CAC02-X7R-	10–5600	100	10	$0.65	$0.51	$0.39	$0.345	$0.30
			20	.59	.46	.35	.315	.27
	5700–6800	100	10	.83	.64	.50	.44	.38
			20	.75	.59	.45	.40	.345
	5600–10,000	50	10	.73	.57	.44	.39	.335
			20	.65	.51	.39	.35	.30
	11,000–18,000	50	10	.89	.69	.53	.47	.41
			20	.81	.63	.49	.43	.375
	19,000–22,000	50	10	1.00	.78	.60	.53	.46
			20	.91	.71	.55	.485	.42
CAC03-X7R-	5600–10,000	100	10	.75	.59	.45	.40	.345
			20	.68	.53	.41	.36	.31
	10,000–15,000	100	10	.95	.74	.57	.505	.435
			20	.88	.68	.53	.465	.40
	10,000–22,000	50	10	.84	.65	.50	.45	.385
			20	.75	.59	.45	.40	.345
	23,000–33,000	50	10	.95	.74	.57	.505	.435
			20	.86	.67	.52	.46	.40
	34,000–47,000	50	10	1.10	.86	.66	.585	.505
			20	1.00	.78	.60	.53	.46
CAC04-X7R-	10,000–27,000	100	10	1.13	.88	.68	.60	.52
			20	1.03	.80	.62	.545	.47
	28,000–47,000	100	10	1.25	.98	.75	.665	.575
			20	1.13	.88	.68	.60	.52
	47,000	50	10	1.14	.89	.68	.605	.52
			20	1.05	.81	.62	.55	.48
	48,000–75,000	50	10	1.38	1.07	.83	.73	.63
			20	1.25	.98	.75	.665	.575
	76,000–100,000	50	10	1.55	1.21	.93	.825	.71
			20	1.40	1.09	.84	.745	.64
CAC05-X7R-	10,000–27,000	100	10	1.45	1.13	.87	.77	.68
			20	1.31	1.02	.79	.70	.61
	28,000–47,000	100	10	1.73	1.35	1.04	.92	.79
			20	1.55	1.21	.93	.83	.71
	48,000–100,000	100	10	2.10	1.64	1.26	1.12	.97
			20	1.90	1.48	1.14	1.01	.87
	47,000–75,000	50	10	1.90	1.48	1.14	1.01	.87
			20	1.73	1.35	1.04	.92	.79

Series No.	Cap. Range pF	WV DC V.	Tolerance ± %	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CAC05-X7R-	76,000–100,000	50	10	2.03	1.58	1.22	1.08	.93
			20	1.83	1.42	1.10	.97	.84
	110,000–180,000	50	10	2.25	1.76	1.35	1.20	1.04
			20	2.05	1.60	1.23	1.09	.94
	190,000–270,000	50	10	2.43	1.89	1.46	1.29	1.12
			20	2.23	1.74	1.34	1.18	1.02
CAC02-Z5U-	1000–10,000	100	20	$0.59	$0.46	$0.35	$0.315	$0.27
			+80, −20	.54	.42	.32	.285	.245
	11,000–22,000	100	20	.65	.51	.39	.345	.30
			+80, −20	.59	.46	.35	.315	.27
	23,000–33,000	50	20	.81	.63	.49	.43	.375
			+80, −20	.75	.58	.45	.40	.345
	34,000–47,000	50	20	.93	.72	.56	.49	.425
			+80, −20	.84	.65	.50	.445	.385
CAC03-Z5U-	10,000–22,000	100	20	.69	.54	.41	.365	.315
			+80, −20	.63	.49	.37	.335	.29
	23,000–47,000	100	20	.76	.60	.46	.405	.35
			+80, −20	.69	.54	.41	.365	.315
	48,000–56,000	100	20	.93	.72	.56	.49	.425
			+80, −20	.84	.65	.51	.445	.385
	56,000–68,000	50	20	.88	.68	.53	.465	.405
			+80, −20	.80	.62	.48	.425	.37
	69,000–120,000	50	20	1.00	.78	.60	.53	.46
			+80, −20	.91	.71	.55	.485	.42
CAC04-Z5U-	68,000–100,000	100	20	1.14	.89	.68	.605	.525
			+80, −20	1.04	.81	.62	.55	.475
	110,000–120,000	100	20	1.26	.99	.76	.67	.58
			+80, −20	1.15	.90	.69	.61	.53
	100,000	50	20	1.08	.84	.65	.57	.495
			+80, −20	.96	.75	.58	.51	.445
	110,000–120,000	50	20	1.21	.95	.73	.645	.56
			+80, −20	1.10	.86	.66	.585	.505
	130,000–180,000	50	20	1.26	.99	.76	.67	.58
			+80, −20	1.15	.90	.69	.61	.53
	190,000–270,000	50	20	1.29	1.10	.85	.75	.65
			+80, −20	1.14	1.00	.77	.685	.59

CORNING® Glass Capacitors

TYPE CYR GLASS CAPACITORS

Fused monolithic construction provides excellent electrical performance, environmental immunity, stability and retraceability. Meets MIL-C-23269 requirements. Available in both axial and radial lead configurations. **WVDC:** 300 V and 500 V, −55° C to +125° C. **Temperature Coefficient:** +140 (±25) ppm/°C, max. deviation, 5 ppm. **Failure Rate (90% Confidence):** 2% in 1000 hours; 1% and .001% also available on request.

TYPE CYR10

Axial lead—.078″ th. x .172″ w. x .344″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±.25pF	±.5pF	±5%		±1%	±2%	±5%
0.5	-001			22		-045	-046
1.0	-002			24		-047	-048
1.5	-003			27	-049	-050	-051
2.2	-004	-005		30	-052	-053	-054
2.7	-006			33	-055	-056	-057
3.0	-007	-008		36	-058	-059	-060
3.3	-009			39	-061	-062	-063
3.6	-010	-011		43	-064	-065	-066
3.9	-012			47	-067	-068	-069
4.3	-013	-014		51	-070	-071	-072
4.7	-015			56	-073	-074	-075
5.1	-016			62	-076	-077	-078
5.6	-017			68	-079	-080	-081
6.2	-019		-020	75	-082	-083	-084
6.8	-021		-022	82	-085	-086	-087
7.5	-023		-024	91	-088	-089	-090
8.2	-025		-026	100	-091	-092	-093
9.1	-027		-028	110	-094	-095	-096
10	-029		-030	120	-097	-098	-099
11	-031		-032	130	-100	-101	-102
12	-033		-034	150	-103	-104	-105
	±1%	±2%	±5%	160	-106	-107	-108
13		-035	-036	180	-109	-110	-111
15		-037	-038	200	-112	-113	-114
16		-039	-040	220*	-115	-116	-117
18		-041	-042	240*	-118	-119	-120
20		-043	-044	270*	-121	-122	-123
				300*	-124	-125	-126

TYPE CYR15

Axial lead—.109″ th. x .266″ w. x .469″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
220	-001	-002	-003	560*	-031	-032	-033
240	-004	-005	-006	620*	-034	-035	-036
270	-007	-008	-009	680*	-037	-038	-039
300	-010	-011	-012	750*	-040	-041	-042
330	-013	-014	-015	820*	-043	-044	-045
360	-016	-017	-018	910*	-046	-047	-048
390	-019	-020	-021	1000*	-049	-050	-051
430	-022	-023	-024	1100*	-052	-053	-054
470	-025	-026	-027	1200*	-055	-056	-057
510	-028	-029	-030				

TYPE CYR20

Axial lead—.141″ th. x .422″ w. x .734″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
560	-001	-002	-003	1800	-037	-038	-039
620	-004	-005	-006	2000	-040	-041	-042
680	-007	-008	-009	2200	-043	-044	-045
750	-010	-011	-012	2400	-046	-047	-048
820	-013	-014	-015	2700	-049	-050	-051
910	-016	-017	-018	3000	-052	-053	-054
1000	-019	-020	-021	3300	-055	-056	-057
1100	-022	-023	-024	3600*	-058	-059	-060
1200	-025	-026	-027	3900*	-061	-062	-063
1300	-028	-029	-030	4300*	-064	-065	-066
1500	-031	-032	-033	4700*	-067	-068	-069
1600	-034	-035	-036	5100*	-070	-071	-072

TYPE CYR30

Axial lead—.141″ th. x .750″ w. x .766″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
3600	-001	-002	-003	6200	-019	-020	-021
3900	-004	-005	-006	6800*	-022	-023	-024
4300	-007	-008	-009	7500*	-025	-026	-027
4700	-010	-011	-012	8200*	-028	-029	-030
5100	-013	-014	-015	9100*	-031	-032	-033
5600	-016	-017	-018	10,000*	-034	-035	-036

*300 V; all others 500 VDC.

PRICING ON TYPE CYR AXIAL LEAD

Series No.	Cap. Range, pF	Tolerance ±	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999	1000-Up
CYR10-	0.5–12	.25pF	$ 5.55	$ 4.83	$ 3.85	$ 3.49	$ 2.60	$1.79
		.5pF	3.94	3.43	2.73	2.48	1.84	1.27
	5.6–12	5%	3.94	3.43	2.73	2.48	1.84	1.27
	13–24†	5%	3.94	3.43	2.73	2.48	1.84	1.27
	25–300†	1%	6.94	6.05	4.82	4.37	3.25	2.24
		5%	4.43	3.86	3.07	2.79	2.07	1.43
CYR15-	220–430†	1%	5.95	5.18	4.13	3.74	2.78	1.92
		5%	4.43	3.86	3.07	2.79	2.07	1.43
	440–1200†	1%	9.73	8.48	6.75	6.12	4.55	3.14
		5%	4.84	4.21	3.35	3.04	2.26	1.56
CYR20-	560–910†	1%	10.29	8.96	7.14	6.47	4.81	3.32
		5%	5.98	5.21	4.15	3.76	2.80	1.93
	920–2400†	1%	10.79	9.40	7.48	6.79	5.05	3.48
		5%	6.57	5.72	4.56	4.13	3.07	2.12
	2500–3000†	1%	13.61	11.85	9.44	8.56	6.37	4.39
		5%	6.57	5.72	4.56	4.13	3.07	2.12
	3100–5100†	1%	16.62	14.47	11.52	10.45	7.77	5.36
		5%	10.39	9.05	7.20	6.53	4.86	3.35
CYR30-	3600–4300†	1%	22.79	19.85	15.80	14.33	10.66	7.35
		5%	13.76	11.98	9.55	8.66	6.44	4.44
	4400–5600†	1%	25.20	21.95	17.48	15.85	11.79	8.13
		5%	16.40	14.28	11.37	10.32	7.67	5.29
	5700–8200†	1%	25.79	22.46	17.89	16.22	12.06	8.32
		5%	17.24	15.01	11.95	10.84	8.06	5.56
	8300–10,000†	1%	27.65	24.08	19.18	17.39	12.93	8.92
		5%	18.45	16.07	12.79	11.60	8.63	5.95

†Prices on 2% tolerance on request.

TYPE CYR51

Radial lead—.115″ th. x .200″ w. x .300″ lg. WVDC: 300 volts.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±.25pF	±.5pF	±5%		±1%	±2%	±5%
1.0	-001			33	-058	-059	-060
1.5	-002			36	-061	-062	-063
2.2	-003			39	-064	-065	-066
2.7	-004			43	-067	-068	-069
3.0	-005			47	-070	-071	-072
3.3	-006			51	-073	-074	-075
3.6	-007			56	-076	-077	-078
3.9	-008			62	-079	-080	-081
4.3	-009			68	-082	-083	-084
4.7	-010			75	-085	-086	-087
5.1	-011		-012	82	-088	-089	-090
5.6	-013		-014	91	-091	-092	-093
6.2	-015		-016	100	-094	-095	-096
6.8	-017		-018	110	-097	-098	-099
7.5	-019		-020	120	-100	-101	-102
8.2	-021		-022	130	-103	-104	-105
9.1	-023		-024	150	-106	-107	-108
10	-025		-026	160	-109	-110	-111
11	-027		-028	180	-112	-113	-114
12	-029		-030	200	-115	-116	-117
13	-031	-032	-033	220	-118	-119	-120
15	-034	-035	-036	240	-121	-122	-123
16	-037	-038	-039	270	-124	-125	-126
18	-040	-041	-042	300	-127	-128	-129
20	-043	-044	-045	330	-130	-131	-132
22	-046	-047	-048	360	-133	-134	-135
24	-049	-050	-051	390	-136	-137	-138
	±1%	±2%	±5%	430	-139	-140	-141
				470	-142	-143	-144
27	-052	-053	-054	510	-145	-146	-147
30	-055	-056	-057	560	-148	-149	-150

TYPE CYR52

Radial lead—.115″ th. x .300″ w. x .300″ lg. WVDC: 300 volts.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
620	-201	-202	-203	820	-210	-211	-212
680	-204	-205	-206	910	-213	-214	-215
750	-207	-208	-209	1000	-216	-217	-218

TYPE CYR53

Radial lead—.115″ th. x .300″ w. x .500″ lg. WVDC: 300 volts.

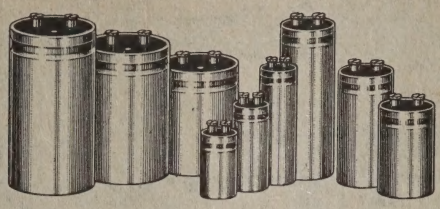
Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
1100	-301	-302	-303	1800	-316	-317	-318
1200	-304	-305	-306	2000	-319	-320	-321
1300	-307	-308	-309	2200	-322	-323	-324
1500	-310	-311	-312	2400	-325	-326	-327
1600	-313	-314	-315				

PRICING ON TYPE CYR RADIAL LEAD

Series No.	Cap. Range, pF	Tolerance ±	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999	1000-Up
CYR51-	1–5	.25pF	$ 7.32	$ 6.37	$ 5.07	$ 4.60	$3.42	$2.36
	5.1–24	.25pF	7.32	6.37	5.07	4.60	3.42	2.36
		5%	5.27	3.91	3.66	3.32	2.47	1.70
	13–24	2%	6.36	5.54	4.41	4.00	2.97	2.05
	25–100†	1%	7.32	6.37	5.07	4.60	3.42	2.36
		5%	5.27	3.91	3.66	3.32	2.47	1.70
	110–270†	1%	7.44	6.48	5.16	4.68	3.48	2.40
		5%	5.13	4.97	3.96	3.59	2.67	1.84
	280–560†	1%	9.02	7.86	6.26	5.67	4.22	2.91
		5%	6.08	5.29	4.21	3.82	2.84	1.96
CYR52-	620–1000†	1%	12.77	11.12	8.86	8.03	5.97	4.12
		5%	8.12	7.07	5.63	5.11	3.80	2.62
CYR53-	1100–1500†	1%	13.52	11.77	9.37	8.50	6.32	4.36
		5%	8.12	7.07	5.63	5.11	3.80	2.62
	1600–1800†	1%	14.97	13.04	10.38	9.42	7.00	4.83
		5%	9.41	8.21	6.54	5.93	4.41	3.04
	1900–2400†	1%	16.34	14.23	11.33	10.28	7.64	5.27
		5%	10.08	8.78	6.99	6.34	4.71	3.25

†Prices on 2% tolerance on request.

MALLORY Computer Grade Capacitors



Two classes of Computer Grade Capacitors are available: CGS for +65° C operation and CG for +85° C operation. Operating life of both types should exceed 10 years when used within stated parameters. Derating voltage and/or lowering operating temperature will extend life by a large factor. **Temp. Range:** −20° C to +65° (CGS), +85° (CG). **Tolerance:** 0–150 WVDC, −10 +75% (U); 151 WVDC up, −10 +50% (T). For complete specifications, ask for Form 4-64 (CG), 4-80 (CGS). Both classes are supplied with polyester film insulating sleeves and have "High-post" terminals with #10-32 screws. Physical mounting of these capacitors is usually done with Mallory VR clamps. The clamps, however, are not included with the capacitors. Order separately.

85° C COMPUTER GRADE

Mallory No. CG-	Cap., µF	WV DC	Size *	Net Each
1052U3B1	10,500	3	B	$ 2.87
263U003R3C•	26,000	3	R3C	2.84
753U3F1	75,000	3	F	8.61
453U5E1	45,000	5	E	7.39
15U5G1	100,000	5	G	11.46
322U10A1	3,200	10	A	2.15
63U10B1	6,000	10	B	2.91
752U010R2C•	7,500	10	R2C	2.32
822U10C1	8,200	10	C	3.46
14U10H1	10,000	10	H	3.86
1352U10K1	13,500	10	K	4.54
143U010R3C•	14,000	10	R3C	2.84
183U10D1	18,000	10	D	5.63
213U010R4C•	21,000	10	R4C	3.33
34U10E1	30,000	10	E	8.08
313U010V3C•	31,000	10	V3C	4.18
4352U10F1	43,500	10	F	10.09
463U010V4C•	46,000	10	V4C	5.20
683U10G1	68,000	10	G	11.80
114U010X4C•	110,000	10	X4C	8.59
164U010X5L•	160,000	10	X5L	11.45
252U15A1	2,500	15	A	2.41
452U15B1	4,500	15	B	3.17
642U15C1	6,400	15	C	3.29
652U015R2C•	6,500	15	R2C	2.32
83U15H1	8,000	15	H	3.74
1052U15K1	10,500	15	K	4.09
113U15J1	11,000	15	J	4.28
123U015R3C•	12,000	15	R3C	2.84
143U15D1	14,000	15	D	5.47
183U015R4C	18,000	15	R4C	3.33
213U015U3C•	21,000	15	U3C	3.31
273U015V3C•	27,000	15	V3C	4.18
343U15F1	34,000	15	F	8.68
403U015V4C•	40,000	15	V4C	5.20
533U15G1	53,000	15	G	11.36
953U015X4C•	95,000	15	X4C	8.59
144U015X5L•	140,000	15	X5L	11.45
152U25A1	1,500	25	A	2.11
282U25B1	2,800	25	B	2.58
332U025R2C•	3,300	25	R2C	2.32
382U25C1	3,800	25	C	3.17
452U25H1	4,500	25	H	3.38
63U25K1	6,000	25	K	3.95
632U025R3C•	6,300	25	R3C	2.84
852U25D1	8,500	25	D	4.77
922U025R4C•	9,200	25	R4C	3.33
103U025U3C•	10,000	25	U3C	3.31
133U025V3C•	13,000	25	V3C	4.18
1352U25E1	13,500	25	E	7.32
24U25F1	20,000	25	F	8.00
203U025V4C•	20,000	25	V4C	5.20
3152U25G1	31,500	25	G	10.72
323U025W4C•	32,000	25	W4C	7.28
483U025X4C•	48,000	25	X4C	8.59
713U025X5L•	71,000	25	X5L	11.44
112U35A1	1,100	35	A	2.32
212U35B1	2,100	35	B	2.64
232U035R2C•	2,300	35	R2C	2.32
312U35C1	3,100	35	C	3.72
362U35H1	3,600	35	H	3.93
432U035R3C•	4,300	35	R3C	2.84
472U35K1	4,700	35	K	4.24
532U35J1	5,300	35	J	4.43
632U035R4C•	6,300	35	R4C	3.33
692U35D1	6,900	35	D	5.81
952U035V3C•	9,500	35	V3C	4.18
113U35E1	11,000	35	E	7.87
113U035U4C•	11,000	35	U4C	4.32
143U035V4C•	14,000	35	V4C	5.20
1652U35F1	16,500	35	F	8.74
223U035W4C•	22,000	35	W4C	7.28
243U35G1	24,000	35	G	9.46
333U035X4C•	33,000	35	X4C	$ 8.59
493U035X5L•	49,000	35	X5L	11.45
82U50A1	800	50	A	2.13
152U50B1	1,500	50	B	2.51
152U050R2C•	1,500	50	R2C	2.32
23U50C1	2,000	50	C	2.79
252U50H1	2,500	50	H	3.08
292U050R3C•	2,900	50	R3C	2.84
332U50K1	3,300	50	K	3.97
352U50J1	3,500	50	J	4.03
432U050R4C•	4,300	50	R4C	3.33
452U50D1	4,500	50	D	4.24
502U050U3C•	5,000	50	U3C	3.31
652U050V3C•	6,500	50	V3C	4.18
732U50E1	7,300	50	E	6.50
742U050U4C•	7,400	50	U4C	4.32
952U050V4C•	9,500	50	V4C	5.20
14U50F1	10,000	50	F	13.08
153U050W4C•	15,000	50	W4C	7.28
1652U50G1	16,500	50	G	11.23
223U050X4C•	22,000	50	X4C	8.59
333U050X5L•	33,000	50	X5L	11.45
62U75A1	600	75	A	2.47
801U075R2C•	800	75	R2C	2.32
13U75B1	1,000	75	B	2.87
152U75C1	1,500	75	C	3.46
152U075R3C•	1,500	75	R3C	2.84
23U75H1	2,000	75	H	3.76
222U075R4C•	2,200	75	R4C	3.33
252U75K1	2,500	75	K	4.52
262U75J1	2,600	75	J	4.58
262U075U3C•	2,600	75	U3C	3.31
332U075V3C•	3,300	75	V3C	4.18
3451U75D1	3,450	75	D	4.92
382U075U4C•	3,800	75	U4C	4.32
492U075V4C•	4,900	75	V4C	5.20
552U75E1	5,500	75	E	7.83
792U075W4C•	7,900	75	W4C	7.28
822U75F1	8,200	75	F	8.85
113U075X4C•	11,000	75	X4C	8.59
1252U75G1	12,500	75	G	11.56
173U075X5L•	17,000	75	X5L	11.45
42U100A1	400	100	A	2.47
751U100B1	750	100	B	2.91
771U100R3C•	770	100	R3C	2.83
13U100C1	1,000	100	C	3.34
112U100R4C•	1,100	100	R4C	3.33
132U100H1	1,300	100	H	3.65
172U100J1	1,700	100	J	4.05
192U100U4C•	1,900	100	U4C	4.32
2251U100D1	2,250	100	D	5.02
252U100V4C•	2,500	100	V4C	5.20
362U100E1	3,600	100	E	7.37
402U100W4C•	4,000	100	W4C	7.28
532U100F1	5,300	100	F	8.23
592U100X4C•	5,900	100	X4C	8.59
832U100G1	8,300	100	G	11.84
2750U150A1	275	150	A	2.00
52U150B1	500	150	B	2.51
72U150C1	700	150	C	2.92
8750U150H1	875	150	H	3.33
112U150K1	1,100	150	K	3.82
1151U150J1	1,150	150	J	3.88
1551U150D1	1,550	150	D	4.90
252U150E1	2,500	150	E	7.24
362U150F1	3,600	150	F	8.65
562U150G1	5,600	150	G	12.07
181T200A1	180	200	A	2.47
341T200B1	340	200	B	2.95
451T200C1	450	200	C	3.15
551T200H1	550	200	H	3.50
751T200K1	750	200	K	4.03

*New item features higher capacitance, smaller case size. *Case sizes on following page.

85°C COMPUTER GRADE (CONT.)

Mallory No. CG-	Cap., µF	WV DC	Size *	Net Each
82T200J1	800	200	J	$ 4.20
13T200D1	1,000	200	D	5.51
1651T200E1	1,650	200	E	6.54
2451T200F1	2,450	200	F	8.34
382T200G1	3,800	200	G	14.98
141T250A1	140	250	A	2.95
2750T250B1	275	250	B	3.35
3750T250C1	375	250	C	3.65
451T250H1	450	250	H	3.95
62T250K1	600	250	K	4.47
82T250D1	800	250	D	5.78
132T250E1	1,300	250	E	7.70
33T250G1	3,000	250	G	12.41
2250T300B1	225	300	B	3.25
3250T300C1	325	300	C	3.50
5250T300K1	525	300	K	3.99
72T300D1	700	300	D	5.80
262T300G1	2,600	300	G	13.00
12T350A1	100	350	A	2.98
181T350B1	180	350	B	3.34
251T350C1	250	350	C	3.61
32T350H1	300	350	H	3.86
42T350K1	400	350	K	4.37
551T350D1	550	350	D	6.23
92T350E1	900	350	E	7.90
132T350F1	1,300	350	F	10.49
23T350G1	2,000	350	G	13.00
151T400C1	150	400	C	3.61
3250T400D1	325	400	D	4.64
531T400E1	530	400	E	6.16
41T450A1	40	450	A	2.20
111T450C1	110	450	C	3.35
141T450H1	140	450	H	3.67
181T450K1	180	450	K	3.78
241T450D1	240	450	D	4.18

65° C COMPUTER GRADE

Mallory No. CGS-	Cap., µF	WV DC	Size *	Net Each
722U010BB1	7,200	10	BB	$ 2.71
123U010R2C•	12,000	10	R2C	2.63
133U010BD1	13,000	10	BD	3.20
203U010BF1	20,000	10	BF	3.83
303U010DD1	30,000	10	DD	4.96
333U010R4C•	33,000	10	R4C	3.83
443U010DF1	44,000	10	DF	6.06
663U010DI1	66,000	10	DI	8.29
763U010V4C•	76,000	10	V4C	6.16
164U010FJ1	160,000	10	FJ	15.57
284U010X5R•	280,000	10	X5R	16.45
552U015BB1	5,500	15	BB	2.54
892U015R2C•	8,900	15	R2C	2.63
103U015BD1	10,000	15	BD	3.24
153U015BF1	15,000	15	BF	3.93
173U015R3C•	17,000	15	R3C	3.17
233U015DD1	23,000	15	DD	5.07
253U015R4C•	25,000	15	R4C	3.83
343U015DF1	34,000	15	DF	6.28
383U015V3C•	38,000	15	V3C	4.85
503U015DI1	50,000	15	DI	8.29
803U015FF1	80,000	15	FF	11.11
833U015V5L•	83,000	15	V5L	8.19
104U015FH1	100,000	15	FH	13.71
124U015FJ1	120,000	15	FJ	15.88
134U015X4C•	130,000	15	X4C	11.60
214U015X5R•	210,000	15	X5R	16.45
302U025BB1	3,000	25	BB	2.65
472U025R2C•	4,700	25	R2C	2.63
562U025BD1	5,600	25	BD	3.16
822U025BF1	8,200	25	BF	3.63
892U025R3C•	8,900	25	R3C	3.17
123U025DD1	12,000	25	DD	4.51
133U025R4C•	13,000	25	R4C	3.83
183U025DF1	18,000	25	DF	5.84
203U025V3C•	20,000	25	V3C	4.85
273U025DI1	27,000	25	DI	7.73
293U025V4C•	29,000	25	V4C	6.17
433U025FF1	43,000	25	FF	10.52
433U025V5L•	43,000	25	V5L	8.19
573U025FH1	57,000	25	FH	13.60
673U025FJ1	67,000	25	FJ	15.12
703U025X4C•	70,000	25	X4C	11.60
923U025X5C•	92,000	25	X5C	13.40
114U025X5R•	110,000	25	X5R	16.45
222U040BB1	2,200	40	BB	2.81
272U040R2C•	2,700	40	R2C	2.63
422U040BD1	4,200	40	BD	3.22
512U040R3C•	5,100	40	R3C	3.17
622U040BF1	6,200	40	BF	4.06
752U040R4C•	7,500	40	R4C	3.83
932U040DD1	9,300	40	DD	5.18
113U040V3C•	11,000	40	V3C	4.85
133U040DF1	13,000	40	DF	6.30
173U040V4C	17,000	40	V4C	6.16
203U040DI1	20,000	40	DI	8.38
323U040FF1	32,000	40	FF	12.04
403U040X4C•	40,000	40	X4C	11.60
433U040FH1	43,000	40	FH	15.06

65° C capacitors cont'd on following page.

65°C COMPUTER GRADE (CONT.)

Mallory No. CGS-	Cap., μF	WV DC	Size *	Net Each
503U040FJ1	50,000	40	FJ	$16.99
533U040X5C•	53,000	40	X5C	13.40
633U040X5R•	63,000	40	X5R	16.45
162U050BB1	1,600	50	BB	2.71
222U050R2C•	2,200	50	R2C	2.63
292U050BD1	2,900	50	BD	3.33
412U050R3C•	4,100	50	R3C	3.17
432U050BF1	4,300	50	BF	3.93
612U050R4C•	6,100	50	R4C	3.83
652U050DD1	6,500	50	DD	5.05
962U050DF1	9,600	50	DF	6.27
133U050V4C•	13,000	50	4VC	6.16
143U050DI1	14,000	50	DI	8.23
203U050V5L•	20,000	50	V5L	8.19
223U050FF1	22,000	50	FF	11.32
303U050FH1	30,000	50	FH	14.44
333U050X4C•	33,000	50	X4C	11.60
353U050FJ1	35,000	50	FJ	16.20
433U050X5C•	43,000	50	X5C	13.40
821U075BB1	820	75	BB	2.65
112U075R2C•	1,100	75	R2C	2.63
152U075BD1	1,500	75	BD	3.07
212U075R3C•	2,100	75	R3C	3.17
232U075BF1	2,300	75	BF	3.59
312U075R4C•	3,100	75	R4C	3.83
342U075DD1	3,400	75	DD	4.56
482U075V3C•	4,800	75	V3C	4.85
502U075DF1	5,000	75	DF	5.57
712U075V4C•	7,100	75	V4C	6.16
752U075DI1	7,500	75	DI	7.28
123U075FF1	12,000	75	FF	10.42
173U075X4C•	17,000	75	X4C	11.60
263U075X5R•	26,000	75	X5R	16.45
122U100BD1	1,200	100	BD	3.54
182U100BF1	1,800	100	BF	4.44
272U100DD1	2,700	100	DD	5.52
402U100DF1	4,000	100	DF	7.16
123U100FH1	12,000	100	FH	17.14
153U100FJ1	15,000	100	FJ	20.97
401U150BB1	400	150	BB	2.82
721U150BD1	720	150	BD	3.33
112U150BF1	1,100	150	BF	4.15
162U150DD1	1,600	150	DD	5.14
352U150DI1	3,500	150	DI	8.62
552U150FF1	5,500	150	FF	12.05
742U150FH1	7,400	150	FH	15.32
872U150FJ1	8,700	150	FJ	17.55
201T250BB1	200	250	BB	2.60
381T250BD1	380	250	BD	3.12
551T250BF1	550	250	BF	3.63
851T250DD1	850	250	DD	4.56
122T250DF1	1,200	250	DF	5.74
192T250DI1	1,900	250	DI	8.06
392T250FH1	3,900	250	FH	14.13
131T350BB1	130	350	BB	2.77
251T350BD1	250	350	BD	3.52
371T350BF1	370	350	BF	4.15
801T350DF1	800	350	DF	6.60
122T350DI1	1,200	350	DI	8.85
302T350FJ1	3,000	350	FJ	17.87
750T450BB1	75	450	BB	2.86
141T450BD1	140	450	BD	3.50
211T450BF1	210	450	BF	4.38
321T450DD1	320	450	DD	5.50
481T450DF1	480	450	DF	7.41
701T450DI1	700	450	DI	9.97
112T450FF1	1,100	450	FF	14.52
152T450FH1	1,500	450	FH	18.28
182T450FJ1	1,800	450	FJ	19.68

•New item features higher capacitance and smaller case size.

*COMPUTER GRADE CASE SIZES

Size includes plastic insulating sleeve.

CG or CGS Case Sizes			Dia. x L., Inches	Mtg. Clamp
A	BB	R2C	1 25/64 x 2 11/64	VR3†
B	BD	R3C	1 25/64 x 3 11/64	VR3†
C	BF	R4C	1 25/64 x 4 11/64	VR3†
H	.....	U3C	1 49/64 x 3 11/64	VR6‡
J	.....	U4C	1 49/64 x 4 11/64	VR6‡
K	DD	V3C	2 1/64 x 3 11/64	VR8§§
D	DF	V4C	2 1/64 x 4 11/64	VR8§§
....	DI	Y5L	2 1/64 x 5 43/64	VR8§§
E	.....	W4C	2 33/64 x 4 11/16	VR10#
F	FF	X4C	3 1/64 x 4 11/16	VR12^
....	FH	X5C	3 1/64 x 5 11/16	VR12^
G	.....	X5L	3 1/64 x 5 43/64	VR12^
....	FJ	X5R	3 1/64 x 5 59/64	VR12^

Net Each: †$0.25; ‡$0.29; §$0.32; #$0.34; ^$0.39.

AXIAL LEAD COMPUTER GRADE CAPACITORS

Series TCG axial lead, computer grade capacitor is a small tubular version of the Mallory type CG electrolytic capacitor listed at left and on previous page. All models are vented except 5/16" and 7/16" diameter cases. Long life, all welded construction. Has standard PVC insulating sleeve, optional Mylar* sleeve. **Temperature Range:** −40° C to +85° C. **Tolerance:** 3–75 WVDC, −10% +75% (U); 76–450 WVDC, −10% +50% (T).

*Registered DuPont Corp. trademark.

Mallory No. TCG-	Cap., μF	WV DC	Size Code	Net Each
132U003D1G	1,300	3	D1G	$2.10
202U003J1C	2,000	3	J1C	2.31
212U003D2A	2,100	3	D2A	2.31
302U003J1G	3,000	3	J1G	2.36
572U003L1L	5,700	3	L1L	2.54
602U003J2C	6,000	3	J2C	2.99
103U003N2C	10,000	3	N2C	3.16
113U003L2L	11,000	3	L2L	3.18
183U003N3C	18,000	3	N3C	3.97
800U006B0L	80	6	B0L	1.99
221U006D0L	220	6	D0L	1.99
601U006D1A	600	6	D1A	2.03
671U006D1A	670	6	D1A	2.03
102U006G1C	1,000	6	G1C	2.18
112U006G1C	1,100	6	G1C	2.19
202U006D2E	2,000	6	D2E	2.36
212U006D2E	2,100	6	D2E	2.36
402U006G2L	4,000	6	G2L	2.54
442U006G2L	4,400	6	G2L	2.99
602U006N1L	6,000	6	N1L	3.02
612U006N1L	6,100	6	N1L	3.02
103U006N2L	10,000	6	N2L	3.67
123U006N2L	12,000	6	N2L	3.97
501U010D1A	500	10	D1A	2.03
601U010D1A	600	10	D1A	2.03
102U010D1G	1,000	10	D1G	2.15
162U010D2A	1,600	10	D2A	2.31
252U010N1C	2,500	10	N1C	2.45
272U010N1C	2,700	10	N1C	2.45
502U010N1L	5,000	10	N1L	3.02
552U010N1L	5,500	10	N1L	3.22
103U010L3C	1,000	10	L3C	3.97
700U015B0L	70	15	B0L	1.99
181U015C0P	180	15	C0P	1.99
601U015C1L	600	15	C1L	2.10
122U015D2A	1,200	15	D2A	2.31
252U015G2L	2,500	15	G2L	2.54
292U015G2L	2,900	15	G2L	2.99
402U015N1L	4,000	15	N1L	3.22
412U015N1L	4,100	15	N1L	3.22
632U015L2L	6,300	15	L2L	3.67
802U015N2L	8,000	15	N2L	3.97
822U015N2L	8,200	15	N2L	3.97
103U015N3C	10,000	15	N3C	3.97
300U025B0L	30	25	B0L	1.99
121U025D0N	120	25	D0N	1.99
201U025D1A	200	25	D1A	2.03
231U025D1A	230	25	D1A	2.03
501U025D1N	500	25	D1N	2.31
521U025D1N	520	25	D1N	2.31
102U025N1C	1,000	25	N1C	2.45
112U025J1L	1,100	25	J1L	2.45
222U025J2L	2,200	25	J2L	3.02
232U025J2L	2,300	25	J2L	3.22
402U025L3C	4,000	25	L3C	3.67
412U025L3C	4,100	25	L3C	3.67
250U030B0L	25	30	B0L	1.99
650U030C0P	65	30	C0P	1.99
750U030D0N	75	30	D0N	1.99
950U030D0N	95	30	D0N	1.99
151U030D1A	150	30	D1A	2.03
171U030D1A	170	30	D1A	2.03
251U030D1G	250	30	D1G	2.10
281U030D1G	280	30	D1G	2.10
501U030D2E	500	30	D2E	2.31
531U030D2E	530	30	D2E	2.31
112U030G2L	1,100	30	G2L	2.54
212U030L2L	2,100	30	L2L	3.16
242U030L2L	2,400	30	L2L	3.25
302U030L3C	3,000	30	L3C	3.67
180U050B0L	18	50	B0L	1.99
400U050D0N	40	50	D0N	1.99
500U050D0N	50	50	D0N	1.99
101U050E1G	100	50	E1G	2.03
151U050D1G	150	50	D1G	2.10
251U050D2E	250	50	D2E	2.31
291U050D2E	290	50	D2E	2.31
501U050G2L	500	50	G2L	2.45
601U050G2L	600	50	G2L	2.45
112U050N2C	1,100	50	N2C	3.02
122U050N2C	1,200	50	N2C	3.18
232U050N3C	2,300	50	N3C	3.97
252U050N3L	2,500	50	N3L	3.97
100U075B0N	10	75	B0N	1.99
250U075D0N	25	75	D0N	1.99
400U075D0R	40	75	D0R	1.99
150T100C0P	15	100	C0P	1.99
1R0T150B0L	1	150	B0L	1.99
5R0T150B0N	5	150	B0N	1.99
7R0T150B0H	7	150	B0N	1.99
100T150C0P	10	150	C0P	1.99
250T150E1G	25	150	E1G	2.03
500T150D1N	50	150	D1N	2.15
101T150J1L	100	150	J1L	2.45
111T150J1L	110	150	J1L	2.45
251T150L2C	250	150	L2C	3.02
261T150L2C	260	150	L2C	3.22
531T150N3C	530	150	N3C	$3.97
561T150N3C	560	150	N3C	3.97
200T250E2C	20	250	E2C	2.10
500T250L1G	50	250	L1G	2.36
101T250L2C	100	250	L2C	2.99
201T250N3C	200	250	N3C	3.25
211T250N3C	210	250	N3C	3.25
200T350G1L	20	350	G1L	2.31
300T350G2C	30	350	G2C	2.45
400T350G2L	40	350	G2L	2.45
500T350N1L	50	350	N1L	2.54
600T350N1L	60	350	N1L	2.99
101T350N2L	100	350	N2L	3.16
121T350N2L	120	350	N2L	3.25
161T350N3L	160	350	N3L	3.97
181T350N3L	180	350	N3L	3.97
111T400H3L	110	400	N3L	3.97
5R0T450E1L	5	450	E1L	2.10
100T450G1L	10	450	G1L	2.31
120T450G1L	12	450	G1L	2.31
200T450G2L	20	450	G2L	2.45
500T450N2C	50	450	N2C	3.25
750T450N3C	75	450	N3C	3.97
850T450N3C	85	450	N3C	3.97

.328" TO .453" DIAMETER CASES

Cases have clear PVC insulating sleeve. Rubber end seal. Vent on .390" diameter model only. Bare tinned copper leads #20 AWG, .032" diameter, 2" long. Cases listed are insulated. For case measurement, uninsulated, deduct .015" from diameter and length.

Case Code	Insulated Size, Inches	
	Diameter	Length
B0L	.328	.640
B0N	.328	.765
C0P	.390	.828
C1L	.390	1.640
D0L	.453	.640
D0N	.453	.765
D0R	.453	.890
D1A	.453	1.015
D1G	.453	1.390
D1N	.453	1.765
D2A	.453	2.015
D2E	.453	2.265

.515" TO 1.015" DIAMETER CASES

Cases have clear PVC insulating sleeve. Molded plastic cover. All models vented. Bare tinned copper leads #20 AWG, .032" diameter, 2½" long, on .515" and .640" diameter cases; #18 AWG, .040" diameter, 2½" long on all others. Cases listed are insulated. For case measurement, uninsulated, deduct .015" from diameter and length.

Case Code	Insulated Size, Inches	
	Diameter	Length
E1G	.515	1.390
E1L	.515	1.640
E2C	.515	2.140
G1C	.640	1.140
G1L	.640	1.640
G2C	.640	2.140
G2L	.640	2.640
J1C	.765	1.140
J1G	.765	1.390
J1L	.765	1.640
J2C	.765	2.140
J2L	.765	2.640
L1G	.890	1.390
L1L	.890	1.640
L2C	.890	2.140
L2L	.890	2.640
L3C	.890	3.140
N1C	1.015	1.140
N1L	1.015	1.640
N2C	1.015	2.140
N2L	1.015	2.640
N3C	1.015	3.140
N3L	1.015	3.640

MALLORY AC Motor Capacitors

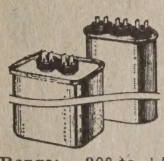
PSU MOTOR START CAPACITORS

PSU capacitors are dry electrolytic non-polarized types for intermittent duty in AC motor starting circuits. Capacitors are rated at minimum to maximum microfarads. Round cases are of moisture and oil resistant molded plastic. Equipped with two quick disconnect terminals. May be mounted by means of PL plastic end cap and HB metal snap-in bracket or VR clamp-bracket. (Order separately).

Mallory No.	Cap., μF	V AC	Size, In. Dia. x L.	Net* Each
PSU7510	75–90	110	1 7/16 x 3 3/8	$1.12
PSU8610	86–103	110	1 7/16 x 3 3/8	1.15
PSU9710	97–116	110	1 7/16 x 3 3/8	1.23
PSU23310A	233–280	110	1 7/16 x 3 3/8	1.89
PSU23310B	233–280	110	2 1/16 x 2 3/8	1.89
PSU27010B	270–324	110	2 1/16 x 2 3/8	1.93
PSU28210	282–338	110	1 13/16 x 3 3/8	2.18
PSU40010	400–480	110	1 13/16 x 4 3/8	2.45
PSU43010	430–516	110	1 13/16 x 4 3/8	2.90
PSU46010	460–552	110	2 1/16 x 3 3/8	3.05
PSU48510	485–582	110	1 13/16 x 4 3/8	3.63
PSU54010A	540–648	110	2 1/16 x 3 3/8	3.95
PSU54010	540–648	110	1 13/16 x 4 3/8	3.95
PSU59010	590–708	110	1 13/16 x 4 3/8	4.17
PSU2115	21–25	*	1 7/16 x 2 3/4	.95
PSU2515	25–30	*	1 7/16 x 2 3/4	.97
PSU3015	30–36	*	1 7/16 x 2 3/4	.98
PSU3615	36–43	*	1 7/16 x 2 3/4	1.01
PSU3815	38–46	*	1 7/16 x 2 3/4	1.03
PSU4315	43–53	*	1 7/16 x 2 3/4	1.04
PSU5315	53–64	*	1 7/16 x 2 3/4	1.05
PSU6415	64–77	*	1 7/16 x 2 3/4	1.08
PSU7215	72–88	*	1 7/16 x 2 3/4	1.09
PSU8815	88–108	*	1 7/16 x 2 3/4	1.15
PSU10815	108–130	*	1 7/16 x 2 3/4	1.17
PSU12415	124–149	*	1 7/16 x 2 3/4	1.18
PSU13015	130–156	*	1 7/16 x 2 3/4	1.25
PSU14515	145–175	*	1 7/16 x 2 3/4	1.29
PSU16115	161–193	*	1 7/16 x 2 3/4	1.32
PSU18915	189–227	*	1 7/16 x 3 3/8	1.53
PSU20015	200–240	*	1 7/16 x 3 3/8	1.57
PSU21615	216–259	*	1 7/16 x 3 3/8	1.63
PSU23315	233–280	*	1 7/16 x 4 3/8	1.89
PSU24315	243–292	*	1 13/16 x 3 3/8	1.92
PSU27015	270–324	*	1 13/16 x 3 3/8	1.93
PSU30015	300–360	*	1 13/16 x 3 3/8	2.14
PSU32415	324–388	*	1 13/16 x 3 3/8	2.20
PSU34015	340–408	*	1 13/16 x 3 3/8	2.24
PSU37815	378–440	*	1 13/16 x 3 3/8	2.34
PSU40015	400–480	*	1 13/16 x 3 3/8	2.47
PSU43015	430–516	*	2 1/16 x 4 3/8	2.90
PSU46015	460–552	*	2 1/16 x 4 3/8	3.05
PSU54015	540–648	*	2 1/16 x 4 3/8	3.95
PSU59015	590–708	*	2 1/16 x 4 3/8	4.19
PSU70515	705–845	*	2 1/16 x 4 3/8	4.29
PSU82915	829–995	*	2 3/16 x 4 3/8	5.20
PSU100015	1K–1.2K	*	2 3/16 x 4 3/4	5.58
PSU3825	38–46	125	1 7/16 x 2 3/4	1.12
PSU7225	72–86	125	1 7/16 x 3 3/8	1.14
PSU8625	86–103	125	1 7/16 x 2 3/4	1.26
PSU10825	108–130	125	1 7/16 x 3 3/8	1.29
PSU12425	124–149	125	1 7/16 x 3 3/8	1.30
PSU13025	130–156	125	1 7/16 x 3 3/8	1.40
PSU14525	145–174	125	1 7/16 x 3 3/8	1.47
PSU16125	161–193	125	1 7/16 x 4 3/8	1.68
PSU16125A	161–193	125	1 7/16 x 3 3/8	1.68
PSU18925	189–229	125	1 13/16 x 3 3/8	1.72
PSU19225	192–230	125	1 7/16 x 4 3/8	1.78
PSU21625	216–259	125	1 13/16 x 3 3/8	1.89
PSU24325	243–292	125	1 13/16 x 3 3/8	2.09
PSU27325	273–328	125	1 13/16 x 4 3/8	2.17
PSU32425	324–389	125	1 13/16 x 4 3/8	2.86
PSU34125	341–409	125	1 13/16 x 4 3/8	3.14
PSU40025	400–480	125	2 1/16 x 4 3/8	3.28
PSU48525	485–543	125	2 1/16 x 4 3/8	3.45
PSU18965	189–227	165	1 13/16 x 4 3/8	3.11
PSU21665	216–259	165	1 13/16 x 4 3/8	3.20
PSU24365	243–292	165	2 1/16 x 3 3/8	3.67
PSU3220	32–38	220	1 7/16 x 2 3/4	1.98
PSU3820	38–46	220	1 7/16 x 3 3/8	2.13
PSU5320	53–64	220	1 13/16 x 3 3/8	2.34
PSU6420	64–77	220	1 13/16 x 3 3/8	2.73
PSU7020	70–84	220	1 13/16 x 3 3/8	2.82
PSU8620	86–103	220	1 13/16 x 4 3/8	3.07
PSU14120R	141–169†	220	2 1/16 x 4 3/8	4.12
PSU14520	145–174	220	2 1/16 x 4 3/8	4.11
PSU21620	216–259	220	2 9/16 x 4 3/8	5.41
PSU23320	233–280	220	2 9/16 x 4 3/8	5.81
PSU2535	25–30	‡	1 7/16 x 2 3/4	1.92
PSU4335	43–53	‡	1 13/16 x 3 3/8	2.27
PSU5035	50–60	‡	1 13/16 x 3 3/8	2.31
PSU7535	75–90	‡	1 13/16 x 3 3/8	2.97
PSU8835	88–108	‡	1 13/16 x 3 3/8	2.95
PSU10835	108–130	‡	1 13/16 x 4 3/8	3.46
PSU12135	121–145	‡	2 1/16 x 4 3/8	3.66
PSU13535	135–162	‡	2 1/16 x 4 3/8	3.82
PSU14135R	141–169†	‡	2 1/16 x 4 3/8	4.12
PSU16135	161–193	‡	2 9/16 x 4 3/8	4.75
PSU18935R	189–227†	‡	2 9/16 x 4 3/8	5.03
PSU21635	216–259	‡	2 1/16 x 4 3/8	5.05
PSU23335	233–280	‡	2 9/16 x 4 3/8	$5.48
PSU27035	270–324	‡	2 9/16 x 4 3/8	5.91
PSU1850R	18–22†	250	1 7/16 x 2 3/4	1.93
PSU2150	21–25	250	1 7/16 x 2 3/4	1.96
PSU2550	25–30	250	1 7/16 x 2 3/4	2.01
PSU3650	36–43	250	1 13/16 x 3 3/8	2.47
PSU4350	43–53	250	1 13/16 x 3 3/8	2.50
PSU5050	50–60	250	1 13/16 x 3 3/8	2.59
PSU5950	59–71	250	1 13/16 x 4 3/8	2.94
PSU7550	75–90	250	1 13/16 x 4 3/8	3.08
PSU8150	81–97	250	1 13/16 x 4 3/8	3.35
PSU8850	88–108	250	1 13/16 x 4 3/8	3.38
PSU10850	108–130	250	2 1/16 x 4 3/8	3.69
PSU12150	121–145	250	2 1/16 x 4 3/8	4.05
PSU13550	135–162	250	2 1/16 x 4 3/8	4.24
PSU13550R	135–162†	250	2 1/16 x 4 3/8	4.41
PSU14150	141–169	250	2 1/16 x 4 3/8	4.92
PSU16150R	161–193†	250	2 9/16 x 4 3/8	5.94
PSU18950	189–227	250	2 9/16 x 4 3/8	6.18
PSU2730	27–32	330	1 13/16 x 3 3/8	2.06
PSU3430	34–41	330	1 13/16 x 3 3/8	2.21
PSU5330	53–64	330	1 13/16 x 4 3/8	3.00
PSU7230	72–86	330	2 1/16 x 4 3/8	3.30
PSU8130	81–90	330	2 9/16 x 4 3/8	4.27
PSU8830	88–108	330	2 1/16 x 4 3/8	4.29
PSU9730	97–116	330	2 9/16 x 4 3/8	4.79
PSU10830	108–130	330	2 9/16 x 4 3/8	5.03
PSU10830R	108–130†	330	2 9/16 x 4 3/8	5.20
PSU12430	124–149	330	2 9/16 x 4 3/8	5.59
PSU12730	127–152	330	2 9/16 x 4 3/8	5.67
PSU13530	135–162	330	2 9/16 x 4 3/8	5.73
PSU13530R	135–162†	330	2 9/16 x 4 3/8	5.90
PSU14530	145–175	330	2 9/16 x 4 3/8	6.22
PSU16130	161–193	330	2 9/16 x 4 3/8	6.68
PSU18930	189–227	330	2 9/16 x 4 3/8	6.30
PSU21630	216–259	330	2 9/16 x 4 3/8	6.69

*110–125 VAC. †With resistors across terminals. ‡220–250 VAC.

MOTOR RUN CAPACITORS



For motor run and fluorescent ballast applications. All types have metal cases and quick-disconnect terminals with flash guards. Impregnating oil is non-flammable. Tolerance: ±10%. Temp. Range: −30° to +70° C. Always connect AC line to red terminal and windings to black.

TYPE OP (OVAL)

Mallory No.	Cap., μF	V AC	Size, Inches	Net* Each
OP1065	10	165	1 5/16 x 2 5/32 x 2 7/8	$3.92
OP336	3	236	1 5/16 x 2 5/32 x 2 1/16	2.01
OP436	4	236	1 5/16 x 2 5/32 x 2 1/16	2.08
OP536	5	236	1 5/16 x 2 5/32 x 2 5/16	2.14
OP7x36	7.5	236	1 5/16 x 2 5/32 x 3 1/8	3.98
OP1036	10	236	2 5/32 x 2 27/32 x 2 1/4	4.41
OP1536A	15	236	2 5/32 x 2 27/32 x 3 1/32	4.98
OP2036	20	236	2 5/32 x 2 27/32 x 3 25/32	7.27
OP17525	17.5	250	2 5/32 x 2 27/32 x 3 13/32	6.76
OP1033A	10	330	2 5/32 x 2 27/32 x 2 3/4	4.50
OP14533	14.5	330	2 5/32 x 2 27/32 x 4 5/32	4.98
OP170	1	370	1 5/16 x 2 5/32 x 1 11/16	2.00
OP270	2	370	1 5/16 x 2 5/32 x 1 11/16	2.20
OP370	3	370	1 5/16 x 2 5/32 x 2 1/16	2,23
OP470	4	370	1 5/16 x 2 5/32 x 2 5/16	2.60
OP570	5	370	1 5/16 x 2 5/32 x 2 7/8	3.45
OP670	6	370	1 5/16 x 2 5/32 x 3 1/8	3.88
OP7x570	7.5	370	2 5/32 x 2 27/32 x 2 1/2	5.15
OP7x570A	7.5	370	1 5/16 x 2 5/32 x 3 13/32	5.15
OP1070	10	370	2 5/32 x 2 27/32 x 3 1/32	5.51
OP1070A	10	370	1 5/16 x 2 5/32 x 4 3/4	5.51
OP12x70	12.5	370	1 29/32 x 2 29/32 x 3 1/2	6.50
OP1570B	15	370	1 29/32 x 2 29/32 x 3 7/8	6.50
OP1570	15	370	2 5/32 x 2 27/32 x 4 5/32	6.50
OP17570B	17.5	370	1 29/32 x 2 29/32 x 4 3/4	7.05
OP17570	17.5	370	2 5/32 x 2 27/32 x 4 7/8	7.05
OP2070B	20	370	1 29/32 x 2 29/32 x 5 1/4	8.69
OP2070	20	370	2 5/32 x 2 27/32 x 4 21/32	8.69
OP2570B	25	370	1 29/32 x 2 29/32 x 6 1/4	10.67
OP2570C	25	370	1 13/32 x 3 21/32 x 4 3/4	10.67
OP2570	25	370	2 5/32 x 2 27/32 x 5 5/16	10.67
OP27570	27.5	370	1 13/32 x 3 21/32 x 5 1/4	11.15
OP3070	30	370	1 13/32 x 3 21/32 x 5 1/4	11.77
OP3570	35	370	1 13/32 x 3 21/32 x 6 1/4	12.24
OP4070	40	370	1 13/32 x 3 21/32 x 7 1/4	12.61
OP4570	45	370	1 13/32 x 3 21/32 x 8	16.27
OP5070	50	370	1 13/32 x 3 21/32 x 9	21.22
OP15D-1070	15–10	370	1 29/32 x 2 29/32 x 6 1/4	11.24
OP17D570	17.5, 5	370	1 29/32 x 2 29/32 x 6 1/4	10.80
OP20D570	20, 5	370	1 13/32 x 3 21/32 x 5 1/4	11.40
OP20D-1570R	20–15	370	1 13/32 x 3 21/32 x 6 3/4	15.33
OP25D370	25–3	370	1 13/32 x 3 21/32 x 5 1/4	12.17
OP25D570	25, 5	370	1 13/32 x 3 21/32 x 6 3/4	14.06

TYPE OP (OVAL) (Continued)

Mallory No.	Cap., μF	V AC	Size, Inches	Net* Each
OP30D570	30, 5	370	1 13/32 x 3 21/32 x 8	15.32
OP35D370	35, 3	370	1 13/32 x 3 21/32 x 7 1/4	14.85
OP35D470	35–4	370	1 13/32 x 3 21/32 x 7 1/4	12.38
OP35D-570A	35, 5	370	1 13/32 x 3 21/32 x 7 1/4	15.83
OP240	2	440	1 5/16 x 2 5/32 x 2 1/16	2.82
OP340	3	440	1 5/16 x 2 5/32 x 2 7/8	3.01
OP440	4	440	1 5/16 x 2 5/32 x 3 1/16	4.02
OP540	5	440	1 5/16 x 2 5/32 x 3 3/4	4.15
OP640	6	440	1 5/16 x 2 5/32 x 4 3/16	4.87
OP7x40	7.5	440	2 5/32 x 2 27/32 x 3 13/32	5.28
OP1040	10	440	1 29/32 x 2 29/32 x 3 7/8	5.81
OP1044	10	440	2 5/32 x 2 27/32 x 4 5/32	5.81
OP12x40	12.5	440	1 29/32 x 2 29/32 x 4 3/4	6.87
OP1540	15	440	2 5/32 x 2 27/32 x 5 5/8	7.99
OP17x40	17.5	440	1 29/32 x 2 29/32 x 6 1/4	10.07
OP2040	20	440	1 29/32 x 2 29/32 x 6 3/4	10.07
OP2040B	20	440	1 13/32 x 3 21/32 x 5 1/4	10.07
OP2540	25	440	1 13/32 x 3 21/32 x 6 1/4	14.61
OP3040	30	440	1 13/32 x 3 21/32 x 8	16.14
OP3540	35	440	1 13/32 x 3 21/32 x 9	18.66
OP4040	40	440	1 13/32 x 3 21/32 x 9 1/2	20.44
OP4540	45	440	1 13/32 x 3 21/32 x 9 1/2	21.87
OP10D340	10, 3	440	2 1/4 x 2 15/16 x 5 3/16	8.82
OP10D440	10, 4	440	1 29/32 x 2 29/32 x 5 1/4	9.93
OP10D540	10, 5	440	1 3/4 x 2 29/32 x 5 1/4	8.26
OP15D440	15, 4	440	1 13/32 x 3 21/32 x 6 1/4	12.18
OP17D740	17.5, 7.5	440	1 13/32 x 3 21/32 x 6 1/4	11.37
OP17D-1740F	17.5–17–5†	440	1 13/32 x 3 21/32 x 9	20.14
OP20D-1540	20, 15	440	1 13/32 x 3 21/32 x 9	15.53
OP20D-1540R	20–15*	440	1 13/32 x 3 21/32 x 9	17.71
OP20D-2040R	20–20*	440	1 13/32 x 3 21/32 x 9 1/2	19.00
OP25D440	25–4	440	1 13/32 x 2 21/32 x 8	16.26
OP25D-1040R	25–10*	440	1 13/32 x 3 21/32 x 9	17.73
OP25D-1540R	25–15*	440	1 13/32 x 3 21/32 x 9 1/2	18.82
OP25D-2040R	25–20*	440	1 13/32 x 3 21/32 x 9 1/2	19.53
OP27D440	27.5, 4	440	1 13/32 x 3 21/32 x 9	18.70
OP35D340	35, 3	440	1 13/32 x 3 31/32 x 9 1/2	21.89
OP35D540	35–5	440	1 13/32 x 3 21/32 x 9 1/2	22.61
OP40D540	40, 5	440	1 13/32 x 3 21/32 x 9 1/2	22.96

*With resistors across terminals. †With internal fuse.

TYPE OPR (RECTANGULAR)

Mallory No.	Cap., μF	V AC	Size, Inches	Net* Each
OPR2070	20	370	2 5/32 x 2 27/32 x 5 3/16	$11.91
OPR2570	25	370	2 5/32 x 2 27/32 x 5 5/8	12.51
OPR2570B	25	370	2 27/32 x 4 9/16 x 3 3/4	12.51
OPR3070	30	370	2 5/32 x 2 27/32 x 6 1/4	11.79
OPR3570	35	370	2 27/32 x 4 9/16 x 4 1/8	12.42
OPR4070	40	370	2 27/32 x 4 9/16 x 5 3/16	19.20
OPR4570	45	370	2 27/32 x 4 9/16 x 6 1/4	20.30
OPR2040	20	440	2 5/32 x 2 27/32 x 6 3/4	11.40
OPR2040B	20	440	2 27/32 x 4 9/16 x 4 3/16	11.40
OPR2540	25	440	2 27/32 x 4 9/16 x 4 3/16	14.73
OPR3040	30	440	2 27/32 x 4 9/16 x 5 3/16	16.92
OPR3540	35	440	2 27/32 x 4 9/16 x 5 3/16	18.73
OPR4040	40	440	2 27/32 x 4 9/16 x 6 1/4	20.37
OPR4540	45	440	2 27/32 x 4 9/16 x 6 1/4	22.93
OPR5040B	50	440	2 27/32 x 4 9/16 x 6 3/4	23.83
OPR5040	50	440	3 3/4 x 4 9/16 x 5 7/8	23.83
OPR5540	55	440	2 27/32 x 4 9/16 x 7 1/2	25.41
OPR6040	60	440	3 3/4 x 4 9/16 x 7	26.93
OPR6540F	65†	440	2 27/32 x 4 9/16 x 8	28.50
OPR30D-2540R	30–25*	440	2 27/32 x 4 9/16 x 7 1/4	27.85
OPR40D-540	40, 5	440	2 27/32 x 4 9/16 x 6 3/4	22.96

*With resistors across terminals. †With internal fuse.

TYPE RP (ROUND)

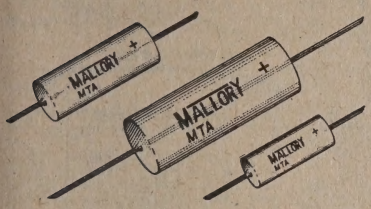
Mallory No.	Cap., μF	V AC	Size, Inches Dia. x Lgth.	Net* Each
RP3303	3	330	2 x 1 3/4	$2.66
RP3304	4	330	2 x 2 3/16	2.66
RP3305	5	330	2 x 2 11/16	2.90
RP3306	6	330	2 x 2 7/8	3.20
RP3307	7	330	2 x 3 5/16	3.39
RP3308	8	330	2 x 3 13/16	4.26
RP3310	10	330	2 1/2 x 3 1/4	4.61
RP3312	12	330	2 1/2 x 3 1/2	5.48
RP3315	15	330	2 1/2 x 4 1/8	5.90

★QUANTITY DISCOUNTS

1–9 Net; 10–24, 25 Up prices on request.

MALLORY Tubular Electrolytics

MTA MOLDED TUBULAR ALUMINUM ELECTROLYTIC CAPACITORS



High quality electrolytics, precision molded by an exclusive new technique. Precision molding assures case uniformity and quality unattainable by conventional tube-and-fill methods. Polypropylene case material provides extreme humidity protection; actually excludes water molecules while allowing for molecular venting of the electrolyte if necessary. All-welded construction. **Temperature Range:** −20° C to +65° C. **Tolerance:** −10%, +100%. **Write for complete specifications.**

†MTA CASE SIZES

Case Code	Size, Inches Dia. x L.	Leads
D	5/16 x 3/4	2
E	3/8 x 1	2
F	1/2 x 1 3/8	2
G	3/4 x 1 3/4	2

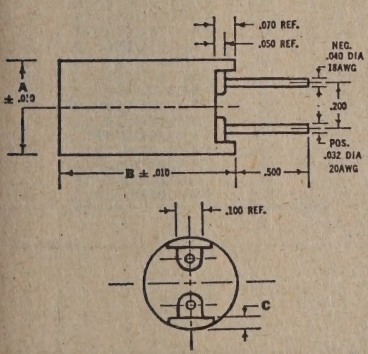
Mallory No.	Cap., µF	Max. WVDC	Surge VDC	Size †	Net Each
MTA1000F1	1000	1	2	F	$0.68
MTA60D3	60	3	4	D	.43
MTA175E3	175	3	4	E	.54
MTA600F3	600	3	4	F	.54
MTA750F3	750	3	4	F	.68
MTA50D6	50	6	8	D	.43

MTA STOCK VALUES

Mallory No.	Cap., µF	Max. WVDC	Surge VDC	Size †	Net Each
MTA125E6	125	6	8	E	$0.47
MTA150E6	150	6	8	E	.47
MTA450F6	450	6	8	F	.60
MTA500F6	500	6	8	F	.60
MTA3000G6	3000	6	8	G	.97
MTA40D10	40	10	12	D	.43
MTA75E10	75	10	12	E	.47
MTA100E10	100	10	12	E	.47
MTA200E10	200	10	12	E	.54
MTA400F10	400	10	12	F	.64
MTA30D15	30	15	18	D	.43
MTA35D15	35	15	18	D	.43
MTA50E15	50	15	18	E	.47
MTA80E15	80	15	18	E	.47
MTA90E15	90	15	18	E	.47
MTA100E15	100	15	18	E	.47
MTA250F15	250	15	18	F	.60
MTA300F15	300	15	18	F	.68
MTA350F15	350	15	18	F	.68
MTA2000-G15	2000	15	18	G	.97
MTA25D20	25	20	25	D	.43
MTA60E20	60	20	25	E	.47
MTA70E20	70	20	25	E	.47
MTA250F20	250	20	25	F	.68
MTA50E25	50	25	30	E	.47
MTA175F25	175	25	30	F	.64
MTA200F25	200	25	30	F	.68
MTA500G25	500	25	30	G	.97
MTA1000-G25	1000	25	30	G	.97
MTA20D30	20	30	35	D	.43
MTA40E30	40	30	35	E	.47
MTA9D35	9	35	40	D	.43
MTA10D35	10	35	40	D	.43
MTA15D35	15	35	40	D	.43
MTA25D35	25	35	40	D	.47
MTA30E35	30	35	40	E	.47
MTA35E35	35	35	40	E	.47
MTA90F35	90	35	40	F	.60
MTA100F35	100	35	40	F	.60
MTA125F35	125	35	40	F	.64
MTA150F35	150	35	40	F	.68
MTA1D50	1	50	60	D	.43

Mallory No.	Cap., µF	Max. WVDC	Surge VDC	Size †	Net Each
MTA2D50	2	50	60	D	$0.43
MTA3D50	3	50	60	D	.43
MTA4D50	4	50	60	D	.43
MTA5D50	5	50	60	D	.43
MTA6D50	6	50	60	D	.43
MTA7D50	7	50	60	D	.43
MTA8D50	8	50	60	D	.43
MTA9D50	9	50	60	D	.47
MTA10D50	10	50	60	D	.47
MTA15D50	15	50	60	D	.47
MTA20E50	20	50	60	E	.47
MTA25E50	25	50	60	E	.54
MTA30E50	30	50	60	E	.54
MTA35E50	35	50	60	E	.54
MTA40E50	40	50	60	E	.54
MTA50E50	50	50	60	E	.54
MTA60F50	60	50	60	F	.60
MTA70F50	70	50	60	F	.60
MTA80F50	80	50	60	F	.64
MTA200G50	200	50	60	G	.97
MTA300G50	300	50	60	G	.97
MTA400G50	400	50	60	G	.97
MTA5D75	5	75	100	D	.54
MTA15E75	15	75	100	E	.54
MTA50F75	50	75	100	F	.60
MTA100G75	100	75	100	G	.97
MTA250G75	250	75	100	G	.97
MTA1D100	1	100	120	D	.54
MTA2D100	2	100	120	D	.54
MTA3D100	3	100	120	D	.54
MTA4D100	4	100	120	D	.54
MTA5D100	5	100	120	D	.54
MTA6E100	6	100	120	E	.54
MTA8E100	8	100	120	E	.54
MTA10E100	10	100	120	E	.54
MTA15E100	15	100	120	E	.54
MTA20F100	20	100	120	F	.54
MTA25F100	25	100	120	F	.60
MTA30F100	30	100	120	F	.60
MTA35F100	35	100	120	F	.60
MTA40F100	40	100	120	F	.60
MTA50G100	50	100	120	G	.97
MTA100-G100	100	100	120	G	.97
MTA150-G100	150	100	120	G	.97

MTV MOLDED CASE VERTICAL-MOUNT ELECTROLYTICS



†MTV CASE SIZES

Case Code	Size, Inches A	B	C
CB	.375	.812	.040
CD	.375	.937	.040
CF	.375	1.062	.040
CK	.375	1.312	.040
DB	.500	.812	.050
DE	.500	1.000	.050
DJ	.500	1.250	.050
DN	.500	1.500	.050

Mallory No. MTV-	Cap., µF	Max. WVDC	Surge VDC	Size †	Net Each
150CD3	150	3	4	CD	$0.49
200CD3	200	3	4	CD	.56
300CF3	300	3	4	CF	.56
700DE3	700	3	4	DE	.67

MTV STOCK VALUES

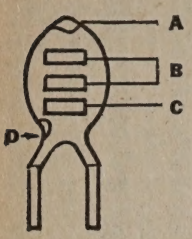
Mallory No. MTV-	Cap., µF	Max. WVDC	Surge VDC	Size †	Net Each
1000DJ3	1000	3	4	DJ	$0.71
100CB6	100	6	8	CB	.49
150CD6	150	6	8	CD	.49
250CK6	250	6	8	CK	.56
300CK6	300	6	8	CK	.56
400DE6	400	6	8	DE	.56
500DE6	500	6	8	DE	.64
750DJ6	750	6	8	DJ	.71
800DN6	800	6	8	DN	.71
70CB10	70	10	12	CB	.49
100CB10	100	10	12	CB	.49
200DB10	200	10	12	DB	.56
250DB10	250	10	12	DB	.56
300DE10	300	10	12	DE	.64
400DE10	400	10	12	DE	.67
600DJ10	600	10	12	DJ	.71
50CB15	50	15	18	CB	.49
60CB15	60	15	18	CB	.49
75CD15	75	15	18	CD	.49
90CD15	90	15	18	CD	.49
100CD15	100	15	18	CD	.49
120CF15	120	15	18	CF	.56
150DB15	150	15	18	DB	.56
150CK15	150	15	18	CK	.56
200DE15	200	15	18	DE	.64
250DE15	250	15	18	DE	.64
400DJ15	400	15	18	DJ	.71
500DN15	500	15	18	DN	.71
30CB25	30	25	30	CB	.47
35CB25	35	25	30	CB	.49
50CD25	50	25	30	CD	.49
50DB25	50	25	30	DB	.56
60CD25	60	25	30	CD	.56
75CF25	75	25	30	CF	.56
100DB25	100	25	30	DB	.56
140DE25	140	25	30	DE	.64
200DE25	200	25	30	DE	.71
250DJ25	250	25	30	DJ	.71
25CB35	25	35	45	CB	.49
50CD35	50	35	45	CD	.56
70DB35	70	35	45	DB	.56
100DB35	100	35	45	DB	.64

Mallory No. MTV-	Cap., µF	Max. WVDC	Surge VDC	Size †	Net Each
150DE35	150	35	45	DE	$0.71
200DJ35	200	35	45	DJ	.71
1CB50	1	50	60	CB	.47
2CB50	2	50	60	CB	.47
3CB50	3	50	60	CB	.47
4CB50	4	50	60	CB	.47
5CB50	5	50	60	CB	.47
6CB50	6	50	60	CB	.47
8CB50	8	50	60	CB	.47
10CB50	10	50	60	CB	.49
15CB50	15	50	60	CB	.49
20CB50	20	50	60	CB	.49
25CB50	25	50	60	CB	.56
35CD50	35	50	60	CD	.56
35DB50	35	50	60	DB	.67
50DB50	50	50	60	DB	.56
70DE50	70	50	60	DE	.64
100DE50	100	50	60	DE	.71
8CB75	8	75	100	CB	.56
15CF75	15	75	100	CF	.56
20DB75	20	75	100	DB	.56
25CF75	25	75	100	CF	.64
30DB75	30	75	100	DB	.64
35DB75	35	75	100	DB	.64
40DB75	40	75	100	DB	.64
50DE75	50	75	100	DE	.64
70DJ75	70	75	100	DJ	.71
1CB100	1	100	120	CB	.47
2CB100	2	100	120	CB	.47
3CB100	3	100	120	CB	.47
4CB100	4	100	120	CB	.47
5CB100	5	100	120	CB	.56
6CB100	6	100	120	CB	.56
8CB100	8	100	120	CB	.56
10CD100	10	100	120	CD	.56
15CF100	15	100	120	CF	.56
20DB100	20	100	120	DB	.56
25DB100	25	100	120	DB	.64
30DE100	30	100	120	DE	.64
35DE100	35	100	120	DE	.64
40DJ100	40	100	120	DJ	.64
50DJ100	50	100	120	DJ	.64

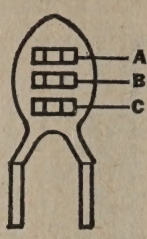
MALLORY Tantalum Capacitors

TDC SOLID ELECTROLYTE DIPPED TANTALUM CAPACITORS

Cases E and F



Cases G and H



Mallory Number TDC-	Cap., μF	WVDC at +85°C	Case Size	Net Each 1-24
685M006EL	6.8	6	E	$0.99
476M006FL	47	6	F	1.05
157M006GL	150	6	G	1.93
337M006HL	330	6	H	4.29
475M010EL	4.7	10	E	.99
336M010FL	33	10	F	1.06
107M010GL	100	10	G	2.16
227M010HL	220	10	H	4.29
335M015EL	3.3	15	E	.99
226M015FL	22	15	F	1.06
686M015GL	68	15	G	1.93
157M015HL	150	15	H	4.29
225M020EL	2.2	20	E	.99
156M020FL	15	20	F	1.22
336M020GL	33	20	G	1.93
476M020GL	47	20	G	1.93
686M020HL	68	20	H	3.05

Tolerance: ±20% as listed. For ±10%, change M to **K** (e.g., TDC685K0063EL); prices on request. **Size:** E, .175″ dia. x .350″ h.; #24 AWG leads. F, .250″ dia. x .500″ h.; #24 AWG leads. G, .350″ dia. x .650″ h.; #22 AWG leads. H, .400″ dia. x .750″ h.; #22 AWG leads. All leads spaced .250″.

CASES E AND F

Code: A, Voltage; see table, right. **B,** Capacitance in pF, 1st and 2nd significant figures. **C,** Capacitance multiplier (number of zeros), see table. **D,** Lead with + polarity; and tolerance: ±20%, only logo shown; ±10%, logo and "K".

CASES G AND H

Code: A, Mallory logo and tolerance: ±20%, only logo shown; ±10%, "K" shown with logo; **B,** capacitance in pF, in 3 sections: two indicate significant figures; third, number of zeros. See table. **C,** Voltage (see table) and Polarity: Silver or white indicates +.

Mallory Number TDC-	Cap., μF	WVDC at +85°C	Case Size	Net Each 1-24
107M020HL	100	20	H	$4.29
685M025FL	6.8	25	F	1.37
106M025FL	10	25	F	1.37
226M025GL	22	25	G	1.93
476M025HL	47	25	H	4.29
686M025HL	68	25	H	4.29
105M035EL	1.0	35	E	.99
155M035EL	1.5	35	E	.99
225M035FL	2.2	35	F	1.24
335M035FL	3.3	35	F	1.24
475M035FL	4.7	35	F	1.37
685M035FL	6.8	35	F	1.37
106M035FL	10	35	F	1.94
156M035GL	15	36	G	1.94
226M035GL	22	35	G	3.05
336M035HL	33	35	H	4.29
476M035HL	47	35	H	4.29

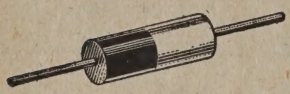
COLOR CODES

Color	Significant Figures 1st	2nd	Multiplier	Volts at +85°C
Black	0	0	.....	.....
Brown	1	1	.....	6
Red	2	2	100	10
Orange	3	3	1,000	15
Yellow	4	4	10,000	20
Green	5	5	100,000	25
Blue	6	6	1,000,000	35
Violet	7	7	10,000,000	50
Gray	8	8	100,000,000	.....
White	9	.....	.....	4

Mallory Number TDC-	Cap., μF	WVDC at +85°C	Case Size	Net Each 1-24
104M050EL	.10	50	E	$1.09
154M050EL	.15	50	E	1.09
224M050EL	.22	50	E	1.09
334M050EL	.33	50	E	1.09
474M050EL	.47	50	E	1.09
684M050EL	.68	50	E	1.09
105M050EL	1.0	50	E	1.09
155M050FL	1.5	50	F	1.50
225M050FL	2.2	50	F	1.50
685M050GL	6.8	50	G	3.05
106M050GL	10	50	G	3.05
156M050GL	15	50	G	3.05
226M050HL	22	50	H	4.29

Larger quantity prices available.

TAP-TNT MINIATURE PELLET EPOXY SEAL −55°C TO +85°C



Mallory TNT-TAP capacitors employ sintered anode wet-slug construction and are furnished in metal cases with precision formed epoxy end seals and insulating sleeves. Standard tolerance: −15% +75%; other tolerances are available on special order. **For detailed specifications, ask for bulletins: 4-38 (TNT) and 4-52 (TAP).**

CASE SIZES

Case Code	Size, In. (Dia. x L.) TNT	TAP
A	.160 x .450	.238 x .686
B	.160 x .600	.238 x .846
C	.....	.238 x 1.061

TNT

Cap., μF	WVDC +85° C	Mallory Number	Case Size
40	3	TNT406U003P1A	A
80	3	TNT806U003P1B	B
25	6	TNT256U006P1A	A
50	6	TNT506U006P1B	B
35	12	TNT356U012P1B	B
12	15	TNT126U015P1A	A
25	15	TNT256U015P1B	B
15	30	TNT156U030P1B	B
6	35	TNT605U035P1A	A
12	35	TNT126U035P1B	B
2	50	TNT205U050P1A	A
4	50	TNT405U050P1A	A
8	50	TNT805U050P1B	B

TNT PRICES

Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
A	$1.42	$1.15	$0.98	$0.90	$0.87
B	1.67	1.35	1.15	1.04	1.01

TAP PRICES

Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
A	$1.66	$1.35	$1.15	$1.05	$1.01
B	2.77	2.23	1.89	1.70	1.65
C	4.77	3.82	3.24	2.92	2.82

TAP

Cap., μF	WVDC +85° C	Mallory Number	Case Size
30	6	TAP306U006P1A	A
140	6	TAP147U006P1B	B
330	6	TAP337U006P1C	C
20	10	TAP206U010P1A	A
100	10	TAP107U010P1B	B
250	10	TAP257U010P1C	C
15	15	TAP156U015P1A	A
70	15	TAP706U015P1B	B
170	15	TAP177U015P1C	C
12	20	TAP126U020P1A	A
10	25	TAP106U025P1A	A
8	30	TAP805U030P1A	A
40	30	TAP406U030P1B	B
100	30	TAP107U030P1C	C
6	40	TAP605U040P1A	A
30	40	TAP306U040P1B	B
5	50	TAP505U050P1A	A
25	50	TAP256U050P1B	B
60	50	TAP606U050P1C	C
4	60	TAP405U060P1A	A
20	60	TAP206U060P1B	B
50	60	TAP506U060P1C	C
15	75	TAP156U075P1B	B
40	75	TAP406U075P1C	C
2	90	TAP205U090P1A	A
11	90	TAP116U090P1B	B
30	90	TAP306U090P1C	C

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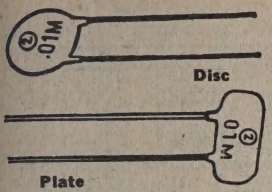
CERA-MITE® CERAMIC CAPACITORS



Tiny, tough and dependable. Fine replacement for molded micas and tubular ceramics. Silvered flat-plate design has low self-inductance for high by-pass efficiency in TV circuits. Heavy moisture-proof insulating coat. For 85° C use. Std. Tol.: ±20% except as indicated.

GENERAL APPLICATION

Extra small for use anywhere. Ideal where TC is not important.

500 WVDC (discs)

Sprague No.	pF	Net Ea.
5GAS-S10	10,000	$0.15
5GAS-S20	20,000	.15
5GA-S25	25,000	.15
5GA-S40	40,000	.30
5GA-S50	50,000	.39
5GA-P10	100,000	.60

1000 WVDC (discs)

5GA-V50	5	$0.15
5GA-V68	6.8	.15
5GA-V75	7.5	.15
5GA-V82	8.2	.15
5GA-Q10	10	.15
5GA-Q12	12	.15
5GA-Q15	15	.15
5GA-Q18	18	.15
5GA-Q20	20	.15
5GA-Q22	22	.15
5GA-Q25	25	.15
5GA-Q27	27	.15
5GA-Q30	30	.15
5GA-Q33	33	.15
5GA-Q39	39	.15
5GA-Q47	47	.15
5GA-Q50	50	.15
5GA-Q56	56	.15
5GA-Q68	68	.15
5GA-Q75	75	.15
5GA-Q82	82	.15
5GA-T10	100	.15
5GA-T12	120	.15
5GA-T15	150	.15
5GA-T18	180	.15
5GA-T20	200	.15
5GA-T22	220	.15
5GA-T25	250	.15
5GA-T27	270	.15
5GA-T30	300	.15
5GA-T33	330	.15
5GA-T36	360	.15
5GA-T39	390	.15
5GA-T47	470	.15
5GA-T50	500	.15
5GA-T56	560	.15
5GA-T68	680	.15
5GA-T75	750	.15
5GA-T80	800	.15
5GA-T82	820	.15
5GA-D10	1000	.15
5GA-D12	1200	.15
5GA-D15	1500	.15
5GA-D18	1800	.15
5GA-D20	2000	.15
5GA-D22	2200	.15
5GA-D25	2500	.15
5GA-D27	2700	.15
5GA-D30	3000	.15
5GA-D33	3300	.15
5GA-D39	3900	.15
5GA-D40	4000	.15
5GA-D47	4700	.15
5GA-D50	5000	.15
5GA-D68	6800	.15
5GA-D82	8200	.15
5GA-S10	10,000	.15
5GA-S15	15,000	.15
5GA-S20	20,000	.15

3000 WVDC (discs)

Std. Tol.: 1.5 pF, ±.25 pF; 3.3–5 pF, ±.5 pF; 6–68 pF, ±10%.

30GA-V15	1.5	$0.15
30GA-V33	3.3	.15
30GA-V47	4.7	.15
30GA-V50	5	.15
30GA-V60	6	.15
30GA-V68	6.8	.15
30GA-V75	7.5	.15
30GA-V82	8.2	.15

3000 WVDC (Cont'd)

Sprague No.	pF	Net Ea.
30GA-Q10	10	$0.15
30GA-Q12	12	.15
30GA-Q15	15	.15
30GA-Q18	18	.15
30GA-Q20	20	.15
30GA-Q22	22	.15
30GA-Q25	25	.15
30GA-Q27	27	.15
30GA-Q30	30	.15
30GA-Q33	33	.15
30GA-Q39	39	.15
30GA-Q47	47	.15
30GA-Q50	50	.15
30GA-Q56	56	.15
30GA-Q60	60	.15
30GA-Q62	62	.15
30GA-Q68	68	.15
30GA-Q75	75	.15
30GA-Q82	82	.15
30GA-T10	100	.15
30GA-T12	120	.15
30GA-T15	150	.15
30GA-T18	180	.15
30GA-T20	200	.15
30GA-T22	220	.15
30GA-T25	250	.15
30GA-T27	270	.15
30GA-T30	300	.18
30GA-T33	330	.18
30GA-T39	390	.18
30GA-T40	400	.18
30GA-T47	470	.18
30GA-T50	500	.21
30GA-T56	560	.21
30GA-T68	680	.21
30GA-T75	750	.21
30GA-T82	820	.21
30GA-D10	1000	.21
30GA-D12	1200	.21
30GA-D15	1500	.21
30GA-D20	2000	.21
30GA-D22	2200	.21
30GA-D25	2500	.21
30GA-D27	2700	.21
30GA-D30	3000	.21
30GA-D33	3300	.21
30GA-D39	3900	.24
30GA-D40	4000	.24
30GA-D47	4700	.24
30GA-D50	5000	.24
30GA-D60	6000	.33
30GA-D68	6800	.33
30GA-D80	8000	.33
30GA-D82	8200	.39
30GA-S10	10,000	.39

6000 WVDC (discs)

60GA-V15	1.5	$0.30
60GA-V47	4.7	.30
60GA-V68	6.8	.30
60GA-V82	8.2	.30
60GA-Q10	10	.30
60GA-Q12	12	.30
60GA-Q15	15	.30
60GA-Q18	18	.30
60GA-Q20	20	.30
60GA-Q22	22	.30
60GA-Q25	25	.30
60GA-Q27	27	.30
60GA-Q30	30	.30
60GA-Q33	33	.30
60GA-Q39	39	.30
60GA-Q47	47	.30
60GA-Q50	50	.30
60GA-Q56	56	.30
60GA-Q60	60	.30
60GA-Q68	68	.30
60GA-Q75	75	.30
60GA-Q82	82	.30
60GA-T10	100	.30
60GA-T12	120	.30
60GA-T15	150	.30
60GA-T18	180	.30
60GA-T20	200	.30
60GA-T22	220	.30
60GA-T25	250	.30
60GA-T27	270	.30
60GA-T30	300	.33
60GA-T33	330	.33
60GA-T39	390	.36
60GA-T40	400	.36
60GA-T47	470	.36
60GA-T50	500	.42
60GA-T56	560	.42
60GA-T68	680	.42
60GA-T75	750	.42
60GA-T82	820	.42
60GA-D10	1000	.54
60GA-D12	1200	.54
60GA-D15	1500	.54
60GA-D22	2200	.75
60GA-D25	2500	.87
60GA-D27	2700	.87
60GA-D30	3000	.87
60GA-D33	3300	.87
60GA-D39	3900	.93
60GA-D47	4700	.93

7500 WVDC (discs)

Std. Tol.: 4.7 pF, ±.5 pF; 8.2–18 pF, ±10%.

Sprague No.	pF	Net Ea.
75GA-V47	4.7	$0.42
75GA-V82	8.2	.42
75GA-Q10	10	.42
75GA-Q12	12	.42
75GA-Q15	15	.42
75GA-Q18	18	.42
75GA-Q20	20	.42
75GA-Q22	22	.42
75GA-Q30	30	.42
75GA-Q33	33	.42
75GA-Q47	47	.42
75GA-Q56	56	.42
75GA-T10	100	.42
75GA-T22	220	.48
75GA-T47	470	.48
75GA-T50	500	.48
75GA-T56	560	.48
75GA-T68	680	.48
75GA-T75	750	.57
75GA-T82	820	.57
75GA-D10	1000	.57
75GA-D12	1200	.57
75GA-D15	1500	.81
75GA-D18	1800	.81
75GA-D20	2000	.93
75GA-D22	2200	.93
75GA-D25	2500	.93

TEMPERATURE-STABLE

Used where minimum capacitance change with temperature is an important consideration. Rated 1000 WVDC. Std. Tol., ±10%.

Sprague No.	pF	Net Ea.
10TS-V33	3.3	$0.15
10TS-V50	5	.15
10TS-V68	6.8	.15
10TS-V75	7.5	.15
10TS-V82	8.2	.15
10TS-Q10	10	.15
10TS-Q12	12	.15
10TS-Q15	15	.15
10TS-Q18	18	.15
10TS-Q20	20	.15
10TS-Q22	22	.15
10TS-Q25	25	.15
10TS-Q27	27	.15
10TS-Q30	30	.15
10TS-Q33	33	.15
10TS-Q39	39	.15
10TS-Q47	47	.15
10TS-Q50	50	.15
10TS-Q56	56	.15
10TS-Q68	68	.15
10TS-Q75	75	.15
10TS-Q82	82	.15
10TS-Q91	91	.15
10TS-T10	100	.15
10TS-T12	120	.15
10TS-T15	150	.15
10TS-T18	180	.15
10TS-T20	200	.15
10TS-T22	220	.15
10TS-T25	250	.15
10TS-T27	270	.15
10TS-T30	300	.15
10TS-T33	330	.15
10TS-T39	390	.15
10TS-T47	470	.15
10TS-T50	500	.15
10TS-T56	560	.15
10TS-T68	680	.15
10TS-T75	750	.15
10TS-T82	820	.15
10TS-D10	1000	.15
10TS-D12	1200	.15
10TS-D15	1500	.15
10TS-D18	1800	.15
10TS-D20	2000	.15
10TS-D22	2200	.15
10TS-D25	2500	.15
10TS-D27	2700	.15
10TS-D30	3000	.15
10TS-D33	3300	.15
10TS-D39	3900	.15
10TS-D40	4000	.15
10TS-D47	4700	.18
10TS-D50	5000	.18
10TS-D56	5600	.18
10TS-D68	6800	.27
10TS-D75	7500	.36
10TS-D82	8200	.36
10TS-S10	10000	.36

SEMI-STABLE

WVDC: 250, 2SS; 1000, 10SS. Std. Tol.: ±10%.

Sprague No.	pF	Net Ea.
2SS-T75	750	$0.15
2SS-T82	820	.15
2SS-D10	1000	.15
2SS-D12	1200	.15
2SS-D15	1500	.15
2SS-D18	1800	.15
2SS-D20	2000	.15
2SS-D22	2200	.15
2SS-D27	2700	.15
2SS-D33	3300	.15
2SS-D39	3900	.15
2SS-D47	4700	.15
2SS-D50	5000	.15
2SS-D56	5600	.15
2SS-D68	6800	.15
2SS-D82	8200	.18
2SS-S10	10,000	.21
2SS-S12	12,000	.33
2SS-S15	15,000	.39
2SS-S18	18,000	.45
2SS-S20	20,000	.45
10SS-T47	470	.15
10SS-T50	500	.15
10SS-T56	560	.15
10SS-T68	680	.15
10SS-T75	750	.15
10SS-T82	820	.15
10SS-D10	1000	.15
10SS-D12	1200	.15
10SS-D15	1500	.15
10SS-D18	1800	.15
10SS-D20	2000	.15
10SS-D22	2200	.15
10SS-D27	2700	.15
10SS-D33	3300	.15
10SS-D39	3900	.15
10SS-D47	4700	.15
10SS-D50	5000	.15
10SS-D56	5600	.15
10SS-D68	6800	.15
10SS-D82	8200	.18
10SS-S10	10,000	.18
10SS-S12	12,000	.27
10SS-S15	15,000	.36
10SS-S18	18,000	.36
10SS-S20	20,000	.36
10SS-S22	22,000	.36

HIGH-K TYPES

For bypass and coupling uses where added capacitance is not important. WVDC: 1000 except 5HKS-S10–TH-P10 500. Std. Tol.: GMV except 5HKS-S10–5HK-P10, +80 −20%; TH types ±20%.

Sprague No.	μF	Net Ea.
5HK-D10	.001	15c
5HK-D15	.0015	15c
5HK-D20	.002	15c
5HK-D22	.0022	15c
5HK-D33	.0033	15c
5HK-D39	.0039	15c
5HK-D47	.0047	15c
5HK-D50	.005	15c
5HK-D68	.0068	15c
5HK-D82	.0082	15c
5HK-S10	.01	15c
5HKS-S10	.01	15c
5HK-S15	.015	15c
5HK-S20	.02	15c
5HK-S25	.025	15c
5HK-S40	.04	27c
5HK-S50	.05	27c
5HK-P10	.1	60c
5HK-2D10	2 x .001	18c
5HK-2D15	2 x .0015	18c
5HK-2D20	2 x .002	18c
5HK-2D22	2 x .0022	18c
5HK-2D47	2 x .0047	21c
5HK-2S10	2 x .01	24c
5HK-2S20	2 x .02	30c

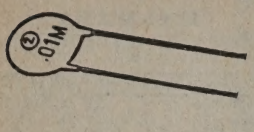
AC DISC CERAMICS

For AC line bypass uses. Rated 125 VAC or 1400 VDC.

125L-D10	.001	15c
125L-D15	.0015	15c
125L-D20	.002	15c
125L-D47	.0047	18c
125L-D50	.005	18c
125L-S10	.01	30c
125L-S20	.02	30c
125L-2D50	2 x .005	30c
125L-2S10	2 x .01	30c

(Cont'd on Following Page)

CERA-MITE® CERAMIC CAPACITORS (CONT'D)



TEMPERATURE-COMPENSATING

Eliminate oscillator drift in TV, FM, VHF and AM receivers. Rated 1000 WVDC. Std. Tol.: ±5%, 12 pF up; all others ±0.5 pF.

N030

Neg. temp. coef., 30 ppm/° C.

Sprague No.	pF	Net Ea.
10TCM-V10	1.0	15c
10TCM-V12	1.2	15c
10TCM-V15	1.5	15c
10TCM-V18	1.8	15c
10TCM-V22	2.2	15c
10TCM-V27	2.7	15c
10TCM-V30	3.0	15c
10TCM-V33	3.3	15c
10TCM-V39	3.9	15c
10TCM-V47	4.7	15c
10TCM-V50	5.0	15c
10TCM-V56	5.6	15c
10TCM-V68	6.8	15c
10TCM-V82	8.2	15c
10TCM-Q10	10	15c
10TCM-Q12	12	15c
10TCM-Q15	15	15c
10TCM-Q18	18	15c
10TCM-Q20	20	15c
10TCM-Q22	22	15c
10TCM-Q25	25	15c
10TCM-Q27	27	15c
10TCM-Q30	30	15c
10TCM-Q33	33	15c
10TCM-Q39	39	15c
10TCM-Q47	47	15c
10TCM-Q50	50	15c
10TCM-Q56	56	15c
10TCM-Q68	68	15c
10TCM-Q75	75	15c
10TCM-Q82	82	15c
10TCM-T10	100	15c
10TCM-T12	120	15c
10TCM-T15	150	15c
10TCM-T18	180	27c
10TCM-T20	200	27c
10TCM-T22	220	27c
10TCM-T27	270	30c
10TCM-T30	300	33c
10TCM-T33	330	45c
10TCM-T39	390	45c

N080

Neg. temp. coef., 80 ppm/° C.

Sprague No.	pF	Net Ea.
10TCN-V22	2.2	15c
10TCN-V27	2.7	15c
10TCN-V30	3.0	15c
10TCN-V33	3.3	15c
10TCN-V39	3.9	15c
10TCN-V47	4.7	15c
10TCN-V50	5.0	15c
10TCN-V56	5.6	15c
10TCN-V68	6.8	15c
10TCN-V82	8.2	15c
10TCN-Q10	10	15c
10TCN-Q12	12	15c
10TCN-Q15	15	15c
10TCN-Q18	18	15c
10TCN-Q20	20	15c
10TCN-Q22	22	15c
10TCN-Q25	25	15c
10TCN-Q27	27	15c
10TCN-Q30	30	15c
10TCN-Q33	33	15c
10TCN-Q39	39	15c
10TCN-Q47	47	15c
10TCN-Q50	50	15c
10TCN-Q56	56	15c
10TCN-Q68	68	15c
10TCN-Q75	75	15c
10TCN-Q82	82	15c
10TCN-T10	100	15c
10TCN-T12	120	15c
10TCN-T15	150	15c
10TCN-T18	180	27c
10TCN-T20	200	27c
10TCN-T22	220	27c
10TCN-T27	270	30c
10TCN-T30	300	30c
10TCN-T33	330	33c
10TCN-T39	390	45c
10TCN-T47	470	45c

N150

Neg. temp. coef., 150 ppm/° C.

Sprague No.	pF	Net Ea.
10TCP-V22	2.2	15c
10TCP-V27	2.7	15c
10TCP-V30	3.0	15c
10TCP-V33	3.3	15c
10TCP-V39	3.9	15c
10TCP-V47	4.7	15c
10TCP-V50	5.0	15c
10TCP-V56	5.6	15c
10TCP-V68	6.8	15c
10TCP-V82	8.2	15c
10TCP-Q10	10	15c
10TCP-Q12	12	15c
10TCP-Q15	15	15c
10TCP-Q18	18	15c
10TCP-Q20	20	15c
10TCP-Q22	22	15c
10TCP-Q25	25	15c
10TCP-Q27	27	15c
10TCP-Q30	30	15c
10TCP-Q33	33	15c
10TCP-Q39	39	15c
10TCP-Q47	47	15c
10TCP-Q50	50	15c
10TCP-Q56	56	15c
10TCP-Q68	68	15c
10TCP-Q75	75	15c
10TCP-Q82	82	15c
10TCP-T10	100	15c
10TCP-T12	120	15c
10TCP-T15	150	15c
10TCP-T18	180	15c
10TCP-T20	200	21c
10TCP-T22	220	21c
10TCP-T27	270	30c
10TCP-T30	300	30c
10TCP-T33	330	33c
10TCP-T39	390	45c
10TCP-T47	470	45c

N220

Neg. temp. coef., 220 ppm/° C.

Sprague No.	pF	Net Ea.
10TCR-V30	3.0	15c
10TCR-V33	3.3	15c
10TCR-V39	3.9	15c
10TCR-V47	4.7	15c
10TCR-V50	5.0	15c
10TCR-V56	5.6	15c
10TCR-V68	6.8	15c
10TCR-V82	8.2	15c
10TCR-Q10	10	15c
10TCR-Q12	12	15c
10TCR-Q15	15	15c
10TCR-Q18	18	15c
10TCR-Q20	20	15c
10TCR-Q22	22	15c
10TCR-Q25	25	15c
10TCR-Q27	27	15c
10TCR-Q30	30	15c
10TCR-Q33	33	15c
10TCR-Q39	39	15c
10TCR-Q47	47	15c
10TCR-Q50	50	15c
10TCR-Q56	56	15c
10TCR-Q68	68	15c
10TCR-Q75	75	15c
10TCR-Q82	82	15c
10TCR-T10	100	15c
10TCR-T12	120	15c
10TCR-T15	150	15c
10TCR-T18	180	15c
10TCR-T20	200	15c
10TCR-T22	220	21c
10TCR-T27	270	21c
10TCR-T30	300	21c
10TCR-T33	330	30c
10TCR-T39	390	33c
10TCR-T47	470	45c
10TCR-T56	560	45c

N330

Neg. temp. coef., 330 ppm/° C.

Sprague No.	pF	Net Ea.
10TCS-V30	3.0	15c
10TCS-V33	3.3	15c
10TCS-V39	3.9	15c
10TCS-V47	4.7	15c
10TCS-V50	5.0	15c
10TCS-V56	5.6	15c
10TCS-V68	6.8	15c
10TCS-V82	8.2	15c
10TCS-Q10	10	15c
10TCS-Q12	12	15c
10TCS-Q15	15	15c
10TCS-Q18	18	15c
10TCS-Q20	20	15c
10TCS-Q22	22	15c
10TCS-Q25	25	15c
10TCS-Q27	27	15c
10TCS-Q30	30	15c

N330 (Cont'd)

Sprague No.	pF	Net Ea.
10TCS-Q33	33	15c
10TCS-Q39	39	15c
10TCS-Q47	47	15c
10TCS-Q50	50	15c
10TCS-Q56	56	15c
10TCS-Q68	68	15c
10TCS-Q75	75	15c
10TCS-Q82	82	15c
10TCS-T10	100	15c
10TCS-T12	120	15c
10TCS-T15	150	15c
10TCS-T18	180	15c
10TCS-T20	200	15c
10TCS-T22	220	21c
10TCS-T27	270	21c
10TCS-T30	300	21c
10TCS-T33	330	30c
10TCS-T39	390	33c
10TCS-T47	470	45c
10TCS-T56	560	45c

N470

Neg. temp. coef., 470 ppm/° C.

Sprague No.	pF	Net Ea.
10TCT-V30	3.0	15c
10TCT-V33	3.3	15c
10TCT-V39	3.9	15c
10TCT-V47	4.7	15c
10TCT-V50	5.0	15c
10TCT-V56	5.6	15c
10TCT-V68	6.8	15c
10TCT-V82	8.2	15c
10TCT-Q10	10	15c
10TCT-Q12	12	15c
10TCT-Q15	15	15c
10TCT-Q18	18	15c
10TCT-Q20	20	15c
10TCT-Q22	22	15c
10TCT-Q25	25	15c
10TCT-Q27	27	15c
10TCT-Q30	30	15c
10TCT-Q33	33	15c
10TCT-Q39	39	15c
10TCT-Q47	47	15c
10TCT-Q50	50	15c
10TCT-Q56	56	15c
10TCT-Q68	68	15c
10TCT-Q75	75	15c
10TCT-Q82	82	15c
10TCT-T10	100	15c
10TCT-T12	120	15c
10TCT-T15	150	15c
10TCT-T18	180	15c
10TCT-T20	200	15c
10TCT-T22	220	15c
10TCT-T27	270	15c
10TCT-T30	300	21c
10TCT-T33	330	21c
10TCT-T39	390	21c
10TCT-T47	470	33c
10TCT-T56	560	45c
10TCT-T68	680	45c
10TCT-T75	750	45c

N750

Neg. temp. coef., 750 ppm/° C.

Sprague No.	pF	Net Ea.
10TCU-V47	4.7	15c
10TCU-V50	5.0	15c
10TCU-V56	5.6	15c
10TCU-V68	6.8	15c
10TCU-V82	8.2	15c
10TCU-Q10	10	15c
10TCU-Q12	12	15c
10TCU-Q15	15	15c
10TCU-Q18	18	15c
10TCU-Q20	20	15c
10TCU-Q22	22	15c
10TCU-Q25	25	15c
10TCU-Q27	27	15c
10TCU-Q30	30	15c
10TCU-Q33	33	15c
10TCU-Q39	39	15c
10TCU-Q47	47	15c
10TCU-Q50	50	15c
10TCU-Q56	56	15c
10TCU-Q68	68	15c
10TCU-Q75	75	15c
10TCU-Q82	82	15c
10TCU-T10	100	15c
10TCU-T12	120	15c
10TCU-T15	150	15c
10TCU-T18	180	15c
10TCU-T20	200	15c
10TCU-T22	220	15c
10TCU-T27	270	15c
10TCU-T30	300	15c
10TCU-T33	330	15c
10TCU-T39	390	21c
10TCU-T47	470	21c
10TCU-T56	560	30c
10TCU-T68	680	33c
10TCU-T75	750	45c
10TCU-T82	820	45c
10TCU-D10	1000	45c

N1500

Neg. temp. coef., 1500 ppm/° C.

Sprague No.	pF	Net Ea.
10TCW-Q10	10	15c
10TCW-Q12	12	15c
10TCW-Q15	15	15c
10TCW-Q18	18	15c
10TCW-Q20	20	15c
10TCW-Q22	22	15c
10TCW-Q25	25	15c
10TCW-Q27	27	15c
10TCW-Q30	30	15c
10TCW-Q33	33	15c
10TCW-Q39	39	15c
10TCW-Q47	47	15c
10TCW-Q50	50	15c
10TCW-Q56	56	15c
10TCW-Q68	68	15c
10TCW-Q75	75	15c
10TCW-Q82	82	15c
10TCW-T10	100	15c
10TCW-T12	120	15c
10TCW-T15	150	15c
10TCW-T18	180	15c
10TCW-T22	220	15c
10TCW-T27	270	15c
10TCW-T30	300	15c
10TCW-T33	330	15c
10TCW-T39	390	15c
10TCW-T47	470	21c
10TCW-T56	560	21c
10TCW-T68	680	39c
10TCW-T75	750	39c
10TCW-T82	820	39c
10TCW-D10	1000	45c
10TCW-D12	1200	45c

N2200

Neg. temp. coef., 2200 ppm/° C.

Sprague No.	pF	Net Ea.
10TCY-Q10	10	15c
10TCY-Q12	12	15c
10TCY-Q15	15	15c
10TCY-Q18	18	15c
10TCY-Q20	20	15c
10TCY-Q22	22	15c
10TCY-Q25	25	15c
10TCY-Q27	27	15c
10TCY-Q30	30	15c
10TCY-Q33	33	15c
10TCY-Q39	39	15c
10TCY-Q47	47	15c
10TCY-Q50	50	15c
10TCY-Q56	56	15c
10TCY-Q68	68	15c
10TCY-Q75	75	15c
10TCY-Q82	82	15c
10TCY-T10	100	15c
10TCY-T12	120	15c
10TCY-T15	150	15c
10TCY-T18	180	15c
10TCY-T20	200	15c
10TCY-T22	220	15c
10TCY-T27	270	15c
10TCY-T30	300	15c
10TCY-T33	330	15c
10TCY-T39	390	15c
10TCY-T47	470	15c
10TCY-T56	560	15c
10TCY-T68	680	18c
10TCY-T75	750	18c
10TCY-T82	820	21c
10TCY-D10	1000	21c
10TCY-D12	1200	30c
10TCY-D15	1500	39c
10TCY-D18	1800	45c
10TCY-D20	2000	45c
10TCY-D22	2200	45c

QUANTITY PRICE INFORMATION AVAILABLE ON REQUEST.

SPRAGUE Capacitors

CERA-MITE® NPO (DISCS)

Zero temperature-coefficient capacitors used where capacitance change with temperature is undesirable. Superior to silvered-mica types in stability, high "Q" and insulation resistance. Rated 1000 WVDC. Std. Tol.: ±5%, 12 pF up; all others ±0.5 pF.

Sprague No.	pF	Net Each
10TCC-V10	1	$0.15
10TCC-V12	1.2	.15
10TCC-V15	1.5	.15
10TCC-V18	1.8	.15
10TCC-V22	2.2	.15
10TCC-V27	2.7	.15
10TCC-V30	3.0	.15
10TCC-V33	3.3	.15
10TCC-V39	3.9	.15
10TCC-V47	4.7	.15
10TCC-V50	5.0	.15
10TCC-V56	5.6	.15
10TCC-V68	6.8	.15
10TCC-V82	8.2	.15
10TCC-Q10	10	.15
10TCC-Q12	12	.15
10TCC-Q15	15	.15
10TCC-Q18	18	.15
10TCC-Q20	20	.15
10TCC-Q22	22	.15
10TCC-Q25	25	.15
10TCC-Q27	27	.15
10TCC-Q30	30	.15
10TCC-Q33	33	.15
10TCC-Q39	39	.15
10TCC-Q47	47	.15
10TCC-Q50	50	.15
10TCC-Q56	56	.15
10TCC-Q68	68	.15
10TCC-Q75	75	.15
10TCC-Q82	82	.15
10TCC-T10	100	.15
10TCC-T12	120	.15
10TCC-T15	150	.15
10TCC-T18	180	.27
10TCC-T20	200	.27
10TCC-T22	220	.30
10TCC-T27	270	.33
10TCC-T30	300	.33
10TCC-T33	330	.45
10TCC-T39	390	.45

HYPERCON® CERAMIC DISCS

Ultra-miniature discs for transistorized circuitry, bypass and coupling. Especially suited for any low voltage use where high capacitance and low power factors are important. Std. Tol.: HY-420–HY470 and HY-510–HY-550, +80 −20%; all others +50 −20%.

Sprague No.	μF	WVDC	Net Each
HY-340	.022	12	$0.15
HY-345	.033	12	.15
HY-350	.047	12	.15
HY-355	.068	12	.15
HY-360	.1	12	.18
HY-365	.15	12	.24
HY-370	.22	12	.27
HY-375	.33	12	.33
HY-380	.47	12	.45
HY-420	.01	16	.15
HY-425	.022	16	.15
HY-430	.033	16	.15
HY-435	.047	16	.15
HY-440	.068	16	.15
HY-450	.1	16	.15
HY-470	.2	16	.27
HY-625	.022	16	.15
HY-630	.033	16	.15
HY-635	.047	16	.15
HY-640	.068	16	.15
HY-650	.1	16	.15
HY-665	.15	16	.24
HY-670	.22	16	.27
HY-675	.33	16	.33
HY-510	.0047	25	.15
HY-520	.01	25	.15
HY-525	.022	25	.15
HY-530	.033	25	.15
HY-535	.047	25	.18
HY-540	.068	25	.18
HY-550	.1	25	.21
HY-720	.015	25	.15
HY-725	.022	25	.15
HY-730	.033	25	.15
HY-735	.047	25	.18
HY-740	.068	25	.21
HY-750	.1	25	.24
HY-765	.15	25	.27
HY-770	.22	25	.39

1905XCR-73A

TYPE TE LITTL-LYTIC® CAPACITORS

Ultra small; excellent, dependable replacement units for transistorized equipment presently on the market. Hermetically sealed in metal case. Low leakage current; long shelf life. Furnished with clear plastic outer insulating sleeves. Rated 85° C.

3 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1050	1	A	$.72	$.48	$.384	$.288	$.240
1051	2	A	.72	.48	.384	.288	.240
1052	3	A	.72	.48	.384	.288	.24
1052.1	4	A	.72	.48	.384	.288	.24
1052.2	5	A	.72	.48	.384	.288	.24
1052.3	6	A	.72	.48	.384	.288	.24
1052.5	8	A	.72	.48	.384	.288	.24
1053	10	A	.72	.48	.384	.288	.24
1053.5	15	A	.72	.48	.384	.288	.24
1054	20	A	.72	.48	.384	.288	.24
1055	25	A	.72	.48	.384	.288	.24
1055.5	30	A	.72	.48	.384	.288	.24
1058	50	B	.72	.48	.384	.288	.24
1058.5	65	B	.72	.48	.384	.288	.24
1059	75	C	.72	.483	.386	.29	.241
1059.5	100	C	.72	.483	.386	.29	.241
1060.1	130	C	.72	.483	.386	.29	.241
1061	150	D	.72	.495	.396	.297	.248
1064	200	D	.72	.495	.396	.297	.248
1065	250	F	.72	.50	.40	.30	.25
1066	300	F	.72	.50	.40	.30	.25
1067	400	G	.75	.505	.404	.303	.253
1068	500	H	.81	.56	.448	.336	.28
1069.1	600	H	.81	.56	.448	.336	.28
1070.1	800	I	.87	.60	.48	.36	.30

6 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1080	1	A	$.72	$.48	$.384	$.288	$.24
1081	2	A	.72	.48	.384	.288	.24
1082	3	A	.72	.48	.384	.288	.24
1083	4	A	.72	.48	.384	.288	.24
1084	5	A	.72	.48	.384	.288	.24
1085	6	A	.72	.48	.384	.288	.24
1086	8	A	.72	.48	.384	.288	.24
1087	10	A	.72	.48	.384	.288	.24
1089	15	A	.72	.48	.384	.288	.24
1090	20	A	.72	.48	.384	.288	.24
1091	25	B	.72	.48	.384	.288	.24
1093	35	B	.72	.48	.384	.288	.24
1100	50	B	.72	.48	.384	.288	.24
1101.5	75	C	.72	.483	.386	.29	.241
1101.7	90	C	.72	.483	.386	.29	.241
1102	100	D	.72	.495	.396	.297	.248
1102.5	140	D	.72	.495	.396	.297	.248
1103	150	F	.72	.50	.40	.30	.25
1104	200	F	.72	.50	.40	.30	.25
1105	250	G	.75	.505	.404	.303	.253
1106	300	H	.75	.505	.404	.303	.253
1107	400	H	.81	.56	.448	.336	.28
1107.5	500	I	.87	.60	.48	.36	.30
1108.5	600	I	.87	.60	.48	.36	.30

12 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1120	1	A	$.72	$.48	$.384	$.288	$.24
1121	2	A	.72	.48	.384	.288	.24
1122	3	A	.72	.48	.384	.288	.24
1123	4	A	.72	.48	.384	.288	.24
1127	5	A	.72	.48	.384	.288	.24
1127.1	6	A	.72	.48	.384	.288	.24
1127.3	8	A	.72	.48	.384	.288	.24
1128	10	A	.72	.48	.384	.288	.24
1129	15	A	.72	.48	.384	.288	.24
1130	20	B	.72	.48	.384	.288	.24
1131	25	B	.72	.48	.384	.288	.24
1132.1	30	B	.72	.48	.384	.288	.24
1133	50	C	.72	.483	.386	.29	.241
1133.5	60	C	.72	.483	.386	.29	.241
1134	75	D	.72	.495	.396	.297	.248
1134.5	90	E	.72	.495	.396	.297	.248
1135	100	D	.72	.495	.396	.297	.248
1135.5	140	F	.72	.50	.40	.30	.25
1136	150	G	.75	.505	.404	.303	.253
1136.5	190	G	.75	.505	.404	.303	.253
1137	200	H	.81	.56	.448	.336	.28
1138	250	H	.81	.56	.448	.336	.28
1139	290	H	.81	.56	.448	.336	.28
1140	390	I	.87	.60	.48	.36	.30

16 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1148	1	A	$.72	$.48	$.384	$.288	$.24
1149	2	A	.72	.48	.384	.288	.24
1150	3	A	.72	.48	.384	.288	.24
1151	4	A	.72	.48	.384	.288	.24
1152	5	A	.72	.48	.384	.288	.24
1153	6	A	.72	.48	.384	.288	.24
1154	8	A	.72	.48	.384	.288	.24
1155	10	A	.72	.48	.384	.288	.24
1156	15	B	.72	.48	.384	.288	.24
1157	20	B	.72	.48	.384	.288	.24
1157.1	25	B	.72	.48	.384	.288	.24
1158	30	C	.72	.483	.386	.29	.241
1159	35	C	.72	.483	.386	.29	.241
1160	50	C	.72	.483	.386	.29	.241
1161	75	D	.72	.495	.396	.297	.248
1161.5	85	E	.72	.495	.396	.297	.248
1161.7	90	D	.72	.495	.396	.297	.248
1162	100	F	.72	.50	.40	.30	.25
1162.5	130	F	.72	.50	.40	.30	.25
1163	150	G	.75	.505	.404	.303	.253
1163.7	180	G	.75	.505	.404	.303	.253
1164	200	H	.81	.56	.448	.336	.28
1164.5	250	H	.81	.56	.448	.336	.28
1165.5	300	I	.87	.60	.48	.36	.30
1166	350	I	.87	.60	.48	.36	.30

25 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1200	1	A	$.72	$.48	$.384	$.288	$.24
1201	2	A	.72	.48	.384	.288	.24
1201.1	3	A	.72	.48	.384	.288	.24
1201.2	4	A	.72	.48	.384	.288	.24
1202	5	A	.72	.48	.384	.288	.24
1203	6	A	.72	.48	.384	.288	.24
1203.5	8	A	.72	.48	.384	.288	.24
1204	10	B	.72	.48	.384	.288	.24
1205	15	B	.72	.48	.384	.288	.24
1206	20	C	.72	.483	.386	.29	.241
1207	25	C	.72	.483	.386	.29	.241
1207.5	30	C	.72	.483	.386	.29	.241
1208	35	C	.72	.483	.386	.29	.241
1209	50	D	.72	.495	.396	.297	.248
1210	75	F	.72	.50	.40	.30	.25
1211	100	G	.75	.505	.404	.303	.253
1212	150	H	.81	.56	.448	.336	.28
1213	200	I	.87	.60	.48	.36	.30

50 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1300	1	A	$.72	$.48	$.384	$.288	$.24
1301	2	A	.72	.48	.384	.288	.24
1302	3	A	.72	.48	.384	.288	.24
1302.1	4	A	.72	.48	.384	.288	.24
1303	5	B	.72	.48	.384	.288	.24
1303.1	6	B	.72	.48	.384	.288	.24
1303.3	8	B	.72	.48	.384	.288	.24
1304	10	C	.72	.483	.386	.29	.241
1304.2	15	C	.72	.483	.386	.29	.241
1305	20	D	.72	.495	.396	.297	.248
1305.5	25	D	.72	.495	.396	.297	.248
1306	35	F	.72	.50	.40	.30	.25
1307	50	G	.75	.505	.404	.303	.253
1308	75	H	.81	.56	.448	.336	.28
1309	100	I	.87	.60	.48	.36	.30

100 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1400	1	A	$.78	$.528	$.422	$.317	$.264
1401	2	B	.78	.528	.422	.317	.264
1402	3	C	.78	.53	.424	.318	.265
1403	4	C	.78	.53	.424	.318	.265
1404	5	D	.81	.545	.436	.327	.273
1405	6	D	.81	.545	.436	.327	.273
1406	8	F	.81	.55	.44	.33	.275
1407	10	F	.81	.55	.44	.33	.275
1408	15	G	.81	.555	.444	.333	.278
1409	20	H	.90	.615	.492	.369	.308
1410	25	I	.96	.66	.528	.396	.33
1411	30	I	.96	.66	.528	.396	.33

150 WVDC

No. TE-	Cap. μF	†	Net Each, Lots of* 1-24	25 Up	50-99	100-249	250-499
1500	1	A	$.78	$.528	$.422	$.317	$.264
1501	2	B	.78	.528	.422	.317	.264
1502	3	C	.78	.53	.424	.318	.265
1503	4	D	.81	.545	.436	.327	.273
1504	5	D	.81	.545	.436	.327	.273
1505	6	F	.81	.55	.44	.33	.275
1505.5	7	F	.81	.55	.44	.33	.275
1506	8	F	.81	.55	.44	.33	.275
1507	10	G	.81	.555	.444	.333	.278
1508.1	15	H	.90	.615	.492	.369	.308
1509	20	I	.96	.66	.528	.396	.29

†SIZES

Dia. x lg.: A—.260 x .536; B—.260 x .723; C—.322 x .723; D—.322 x .848; E—.385 x .723; F—.385 x .848; G—.385 x .973; H—.385 x 1.286; I—.385 x 1.536.

*500–999 Quantity price Available on Request.

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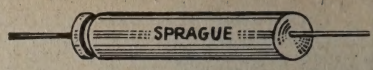


Sprague Number	Cap., μF	WV DC	Size *	Net Each, Lots of 1-24	25-49	50-99	100-499
39D407G003EE4	400	3	A	$1.80	$0.90	$0.79	$0.59
39D907G003EJ4	900	3	B	1.88	.94	.83	.62
39D138G003EL4	1,300	3	C	1.94	.97	.85	.63
39D148G003GE4	1,400	3	G	2.00	1.00	.88	.65
39D188G003FJ4	1,800	3	D	2.00	1.00	.88	.65
39D218G003HE4	2,100	3	K	2.14	1.07	.94	.70
39D278G003FL4	2,700	3	E	2.12	1.06	.93	.69
39D298G003GJ4	2,900	3	H	2.16	1.08	.95	.71
39D308G003JE4	3,000	3	P	2.30	1.15	1.01	.75
39D368G003FP4	3,600	3	F	2.22	1.11	.98	.73
39D428G003HJ4	4,200	3	L	2.34	1.17	1.03	.76
39D438G003GL4	4,300	3	I	2.30	1.15	1.01	.75
39D578G003GP4	5,700	3	J	2.46	1.23	1.08	.80
39D608G003JJ4	6,000	3	Q	2.58	1.29	1.13	.84
39D858G003HP4	8,500	3	N	2.78	1.39	1.22	.91
39D908G003JL4	9,000	3	R	2.86	1.43	1.26	.93
39D109G003HS4	10,000	3	O	3.00	1.50	1.32	.98
39D129G003JP4	12,000	3	S	3.10	1.55	1.36	1.01
39D159G003JS4	15,000	3	T	3.40	1.70	1.49	1.11
39D189G003JT4	18,000	3	U	3.70	1.85	1.62	1.21
99D307G006EE4	300	6	A	1.80	.90	.79	.59
39D607G006EJ4	600	6	B	1.88	.94	.83	.62
39D907G006EL4	900	6	C	1.94	.97	.85	.63
39D108G006GE4	1,000	6	G	2.00	1.00	.88	.65
39D128G006FJ4	1,200	6	D	2.00	1.00	.88	.65
39D158G006HE4	1,500	6	K	2.14	1.07	.94	.70
39D198G006FL4	1,900	6	E	2.12	1.06	.93	.69
39D208G006GJ4	2,000	6	H	2.16	1.08	.95	.71
39D218G006JE4	2,100	6	P	2.30	1.15	1.01	.75
39D258G006FP4	2,500	6	F	2.22	1.11	.98	.73
39D308G006GL4	3,000	6	I	2.30	1.15	1.01	.75
39D408G006GP4	4,000	6	J	2.46	1.23	1.08	.80
39D428G006JJ4	4,200	6	Q	2.58	1.29	1.13	.84
39D608G006HP4	6,000	6	N	2.78	1.39	1.22	.91
39D638G006JL4	6,300	6	R	2.86	1.43	1.26	.93
39D758G006HS4	7,500	6	O	3.00	1.50	1.32	.98
39D858G006JP4	8,500	6	S	3.10	1.55	1.36	1.01
39D109G006JS4	10,000	6	T	3.40	1.70	1.49	1.11
39D129G006JT4	12,000	6	U	3.70	1.85	1.62	1.21
39D257G010EE4	250	10	A	1.80	.90	.79	.59
39D507G010EJ4	500	10	B	1.88	.94	.83	.62
39D807G010EL4	800	10	C	1.94	.97	.85	.63
39D857G010GE4	850	10	G	2.00	1.00	.88	.65
39D108G010FJ4	1,000	10	D	2.00	1.00	.88	.65
39D128G010HE4	1,200	10	K	2.14	1.07	.94	.70
39D168G010FL4	1,600	10	E	2.12	1.06	.93	.69
39D178G010GJ4	1,700	10	H	2.16	1.08	.95	.71
39D218G010FP4	2,100	10	F	2.22	1.11	.98	.73
39D258G010GL4	2,500	10	I	2.30	1.15	1.01	.75
39D348G010GP4	3,400	10	J	2.46	1.23	1.08	.80
39D358G010JJ4	3,500	10	Q	2.58	1.29	1.13	.84
39D508G010HP4	5,000	10	N	2.78	1.39	1.22	.91
39D528G010JL4	5,200	10	R	2.86	1.43	1.26	.93
39D638G010HS4	6,300	10	O	3.00	1.50	1.32	.98
39D718G010JP4	7,100	10	S	3.10	1.55	1.36	1.01
39D888G010JS4	8,800	10	T	3.40	1.70	1.49	1.11
39D109G010JT4	10,000	10	U	3.70	1.85	1.62	1.21
39D207G015EE4	200	15	A	1.80	.90	.79	.59
39D407G015EJ4	400	15	B	1.88	.94	.83	.62
39D607G015EL4	600	15	C	1.94	.97	.85	.63
39D807G015FJ4	800	15	D	2.00	1.00	.88	.65
39D957G015HE4	950	15	K	2.14	1.07	.94	.70
39D128G015FL4	1,200	15	E	2.12	1.06	.93	.69
39D138G015GJ4	1,300	15	H	2.16	1.08	.95	.71
39D168G015FP4	1,600	15	F	2.22	1.11	.98	.73
39D198G015GL4	1,900	15	I	2.30	1.15	1.01	.75
39D258G015GP4	2,500	15	J	2.46	1.23	1.08	.80
39D268G015JJ4	2,600	15	Q	2.58	1.29	1.13	.84
39D388G015HP4	3,800	15	N	2.78	1.39	1.22	.91
39D408G015JL4	4,000	15	R	2.86	1.43	1.26	.93
39D478G015HS4	4,700	15	O	3.00	1.50	1.32	.98
39D538G015JP4	5,300	15	S	3.10	1.55	1.36	1.01
39D668G015JS4	6,600	15	T	3.40	1.70	1.49	1.11
39D808G015JT4	8,000	15	U	3.70	1.85	1.62	1.21
39D107G025EE4	100	25	A	1.80	.90	.79	.59
39D207G025EJ4	200	25	B	1.88	.94	.83	.62
39D357G025EL4	350	25	C	1.94	.97	.85	.63
39D457G025FJ4	450	25	D	2.00	1.00	.88	.65
39D507G025HE4	500	25	K	2.14	1.07	.94	.70
39D707G025FL4	700	25	E	2.12	1.06	.93	.69
39D757G025GJ4	750	25	H	2.16	1.08	.95	.71
39D807G025JE4	800	25	P	2.30	1.15	1.01	.75
39D957G025FP4	950	25	F	2.22	1.11	.98	.73
39D108G025GL4	1,000	25	I	2.30	1.15	1.01	.75
39D118G025HJ4	1,100	25	L	2.34	1.17	1.03	.76
39D158G025GP4	1,500	25	J	2.46	1.23	1.08	.80
39D168G025JJ4	1,600	25	Q	2.58	1.29	1.13	.84
39D178G025HL4	1,700	25	M	2.56	1.28	1.12	.84
39D228G025HP4	2,200	25	N	2.78	1.39	1.22	.91
39D248G025JL4	2,400	25	R	2.86	1.43	1.26	.93
39D288G025HS4	2,800	25	O	3.00	1.50	1.32	.98
39D328G025JP4	3,200	25	S	3.10	1.55	1.36	1.01
39D408G025JS4	4,000	25	T	3.40	1.70	1.49	1.11
39D478G025JT4	4,700	25	U	3.70	1.85	1.62	1.21
39D756G030EE4	75	30	A	1.80	.90	.79	.59
39D157G030EJ4	150	30	B	1.88	.94	.83	.62
39D257G030EL4	250	30	C	1.94	.97	.85	.63
39D357G030FJ4	350	30	D	2.00	1.00	.88	.65
39D407G030HE4	400	30	K	2.14	1.07	.94	.70
39D507G030FL4	500	30	E	2.12	1.06	.93	.69
39D607G030JE4	600	30	P	2.30	1.15	1.01	.75
39D707G030FP4	700	30	F	2.22	1.11	.98	.73
39D857G030GL4	850	30	I	2.30	1.15	1.01	.75
39D118G030GP4	1,100	30	J	2.46	1.23	1.08	.80
39D128G030HL4	1,200	30	M	2.56	1.28	1.12	.84
39D178G030HP4	1,700	30	N	2.78	1.39	1.22	.91
39D188G030JL4	1,800	30	R	2.86	1.43	1.26	.93
39D218G030HS4	2,100	30	O	3.00	1.50	1.32	.98
39D248G030JP4	2,400	30	S	3.10	1.55	1.36	1.01
39D308G030JS4	3,000	30	T	3.40	1.70	1.49	1.11
39D368G030JT4	3,600	30	U	3.70	1.85	1.62	1.21
39D756G040EE4	75	40	A	1.80	.90	.79	.59
39D157G040EJ4	150	40	B	1.88	.94	.83	.62
39D157G040EL4	200	40	C	1.94	.97	.85	.63
39D257G040GE4	250	40	G	2.00	1.00	.88	.65
39D307G040FJ4	300	40	D	2.00	1.00	.88	.65
39D357G040HE4	350	40	K	2.14	1.07	.94	.70
39D457G040FL4	450	40	E	2.12	1.06	.93	.69
39D507G040GJ4	500	40	H	2.16	1.08	.95	.71
39D607G040FP4	600	40	F	2.22	1.11	.98	.73
39D757G040GL4	750	40	I	2.30	1.15	1.01	.75
39D108G040GP4	1,000	40	J	2.46	1.23	1.08	.80
39D118G040HL4	1,100	40	M	2.56	1.28	1.12	.84
39D158G040HP4	1,500	40	N	2.78	1.39	1.22	.91
39D168G040JL4	1,600	40	R	2.86	1.43	1.26	.93
39D198G040HS4	1,900	40	O	3.00	1.50	1.32	.98
39D218G040JP4	2,100	40	S	3.10	1.55	1.36	1.01
39D268G040JS4	2,600	40	T	3.40	1.70	1.49	1.11
39D328G040JT4	3,200	40	U	3.70	1.85	1.62	1.21
39D506G050EE4	50	50	A	1.80	.90	.79	.59
39D107G050EJ4	100	50	B	1.88	.94	.83	.62
39D157G050EL4	150	50	C	1.94	.97	.85	.63
39D207G050FJ4	200	50	D	2.00	1.00	.88	.65
39D257G050HE4	250	50	K	2.14	1.07	.94	.70
39D357G050FL4	350	50	E	2.12	1.06	.93	.69
39D457G050FP4	450	50	F	2.22	1.11	.98	.73
39D507G050GL4	500	50	I	2.30	1.15	1.01	.75
39D707G050GP4	700	50	J	2.46	1.23	1.08	.80
39D757G050JJ4	750	50	Q	2.58	1.29	1.13	.84
39D807G050HL4	800	50	M	2.56	1.28	1.12	.84
39D118G050HP4	1,100	50	N	2.78	1.39	1.22	.91
39D138G050HS4	1,300	50	O	3.00	1.50	1.32	.98
39D158G050JP4	1,500	50	S	3.10	1.55	1.36	1.01
39D198G050JS4	1,900	50	T	3.40	1.70	1.49	1.11
39D238G050JT4	2,300	50	U	3.70	1.85	1.62	.121
39D306G075EE4	30	75	A	1.80	.90	.79	.59
39D756G075EJ4	75	75	B	1.88	.94	.83	.62
39D107G075EL4	100	75	C	1.94	.97	.85	.63
39D157G075FJ4	150	75	D	2.00	1.00	.88	.65
39D207G075FL4	200	75	E	2.12	1.06	.93	.69
39D257G075JE4	250	75	P	2.30	1.15	1.01	.75
39D307G075FP4	300	75	F	2.22	1.11	.98	.73
39D357G075GL4	350	75	I	2.30	1.15	1.01	.75
39D457G075GP4	450	75	J	2.46	1.23	1.08	.80
39D507G075HL4	500	75	M	2.56	1.28	1.12	.84
39D707G075HP4	700	75	N	2.78	1.39	1.22	.91
39D757G075JL4	750	75	R	2.86	1.43	1.26	.93
39D857G075HS4	850	75	O	3.00	1.50	.132	.98
39D108G075JP4	1,000	75	S	3.10	1.55	1.36	1.01
39D128G075JS4	1,200	75	T	3.40	1.70	1.49	1.11
39D158G075JT4	1,500	75	U	3.70	1.85	1.62	1.21
39D156F100EE4	15	100	A	1.80	.90	.79	.59
39D356F100EJ4	35	100	B	1.88	.94	.83	.62
39D556F100EL4	55	100	C	1.94	.97	.85	.63
39D606F100GE4	60	100	G	2.00	1.00	.88	.65
39D756F100FJ4	75	100	D	2.00	1.00	.88	.65
39D906F100HE4	90	100	K	2.14	1.07	.94	.70
39D117F100FL4	110	100	E	2.12	1.06	.93	.69
39D127F100GJ4	120	100	H	2.16	1.08	.95	.71
39D137F100JE4	130	100	P	2.30	1.15	1.01	.75
39D157F100FP4	150	100	F	2.22	1.11	.98	.73
39D187F100HJ4	180	100	L	2.34	1.17	1.03	.76
39D197F100GL4	190	100	I	2.30	1.15	1.01	.75
39D257F100GP4	250	100	J	2.46	1.23	1.08	.80
39D267F100JJ4	260	100	Q	2.58	1.29	1.13	.84
39D287F100HL4	280	100	M	2.56	1.28	1.12	.84
39D377F100HP4	370	100	N	2.78	1.39	1.22	.91
39D397F100JL4	390	100	R	2.86	1.43	1.26	.93
39D467F100HS4	460	100	O	3.00	1.50	1.32	.98
39D527F100JP4	520	100	S	3.10	1.55	1.36	1.01
39D657F100JS4	650	100	T	3.40	1.70	1.49	1.11
39D787F100JT4	780	100	U	3.70	1.85	1.62	1.21
39D106F150EE4	10	150	A	1.80	.90	.79	.59
39D256F150EJ4	25	150	B	1.88	.94	.83	.62
39D406F150EL4	40	150	C	1.94	.97	.85	.63
39D506F150FJ4	50	150	D	2.00	1.00	.88	.65
39D606F150HE4	60	150	K	2.14	1.07	.94	.70
39D806F150FL4	80	150	E	2.12	1.06	.93	.69
39D856F150GJ4	85	150	H	2.16	1.08	.95	.71
39D886F150JE4	88	150	P	2.30	1.15	1.01	.75
39D107F150FP4	100	150	F	2.22	1.11	.98	.73
39D127F150GL4	120	150	I	2.30	1.15	1.01	.75

TYPE 39D CONTINUED ON THE FOLLOWING PAGE

SPRAGUE Electrolytic Capacitors

TYPE 39D POWERLYTIC® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

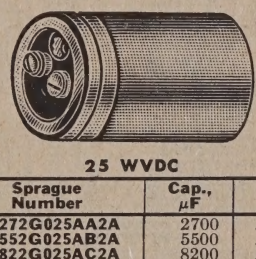
Sprague Number	Cap., µF	WV DC	Size *	Net Each, Lots of 1-24	25-49	50-99	100-499
39D267F150JL4	260	150	R	$2.86	$1.43	$1.26	$0.93
39D317F150HS4	310	150	O	3.00	1.50	1.32	.98
39D357F150JP4	350	150	S	3.10	1.55	1.36	1.01
39D447F150JS4	440	150	T	3.40	1.70	1.49	1.11
39D537F150JT4	530	150	U	3.70	1.85	1.62	1.21
39D905F200EE4	9	200	A	1.80	.90	.79	.59
39D156F200EJ4	15	200	B	1.88	.94	.83	.62
39D256F200EL4	25	200	C	1.94	.97	.85	.63
39D306F200GE4	30	200	G	2.00	1.00	.88	.65
39D356F200FJ4	35	200	D	2.00	1.00	.88	.65
39D406F200HE4	40	200	K	2.14	1.07	.94	.70
39D556F200FL4	55	200	E	2.12	1.06	.93	.69
39D606F200GJ4	60	200	H	2.16	1.08	.95	.71
39D756F200FP4	75	200	F	2.22	1.11	.98	.73
39D806F200HJ4	80	200	L	2.34	1.17	1.03	.76
39D906F200GL4	90	200	I	2.30	1.15	1.01	.75
39D127F200GP4	120	200	J	2.46	1.23	1.08	.80
39D137F200HL4	130	200	M	2.78	1.39	1.22	.91
39D177F200HP4	170	200	N	2.86	1.43	1.26	.93
39D187F200JL4	180	200	R	3.00	1.50	1.32	.98
39D227F200HS4	220	200	O	3.10	1.55	1.36	1.01
39D257F200JP4	250	200	S	3.40	1.70	1.49	1.11
39D317F200JS4	310	200	T	3.70	1.85	1.62	1.21
39D377F200JT4	370	200	U	1.80	.90	.79	.59
39D705F250EE4	7	250	A	1.88	.94	.83	.62
39D156F250EJ4	15	250	B	1.94	.97	.85	.63
39D206F250EL4	20	250	C	2.00	1.00	.88	.65
39D306F250FJ4	30	250	D	2.14	1.07	.94	.70
39D356F250HE4	35	250	K	2.12	1.06	.93	.69
39D456F250FL4	45	250	E	2.30	1.15	1.01	.75
39D506F250JE4	50	250	P	2.22	1.11	.98	.73
39D606F250FP4	60	250	F	2.30	1.15	1.01	.75
39D706F250GL4	70	250	I	2.46	1.23	1.08	.80
39D956F250GP4	95	250	J	2.56	1.28	1.12	.84
39D107F250HL4	100	250	M	2.78	1.39	1.22	.91
39D147F250HP4	140	250	N	2.86	1.43	1.26	.93
39D157F250JL4	150	250	R	3.00	1.50	1.32	.98
39D187F250HS4	180	250	O	3.10	1.55	1.36	1.01
39D207F250JP4	200	250	S	3.40	1.70	1.49	1.11
39D257F250JS4	250	250	T	3.70	1.85	1.62	1.21
39D307F250JT4	300	250	U	1.80	.90	.79	.59
39D505F300EE4	5	300	A	1.88	.94	.83	.62
39D106F300EJ4	10	300	B	1.94	.97	.85	.63
39D156F300EL4	15	300	C	2.00	1.00	.88	.65
39D206F300FJ4	20	300	D	2.14	1.07	.94	.70
39D256F300HE4	25	300	K				
39D306F300FL4	30	300	E	$2.12	$1.06	$0.93	$0.69
39D127F300HS4	120	300	O	3.00	1.50	1.32	.98
39D137F300JP4	130	300	S	3.10	1.55	1.36	1.01
39D117F300JS4	170	300	T	3.40	1.70	1.49	1.11
39D207F300JT4	200	300	U	3.70	1.85	1.62	1.21
39D405F350EE4	4	350	A	1.80	.90	.79	.59
39D805F350EJ4	8	350	B	1.88	.94	.83	.62
39D126F350EL4	12	350	C	1.94	.97	.85	.63
39D156F350FJ4	15	350	D	2.00	1.00	.88	.65
39D206F350FL4	20	350	E	2.12	1.06	.93	.69
39D256F350GJ4	25	350	H	2.16	1.08	.95	.71
39D306F350FP4	30	350	F	2.22	1.11	.98	.73
39D406F350GL4	40	350	I	2.30	1.15	1.01	.75
39D506F350GP4	50	350	J	2.30	1.15	1.01	.75
39D606F350HL4	60	350	M	2.56	1.28	1.12	.84
39D806F350HP4	80	350	N	2.78	1.39	1.22	.91
39D107F350HS4	100	350	O	3.00	1.50	1.32	.98
39D117F350JP4	110	350	S	3.10	1.55	1.36	1.01
39D137F350JS4	130	350	T	3.40	1.70	1.49	1.11
39D167F350JT4	160	350	U	3.70	1.85	1.62	1.21
39D205F400EE4	2	400	A	1.80	.90	.79	.59
39D505F400EJ4	5	400	B	1.88	.94	.83	.62
39D106F400FJ4	10	400	D	2.00	1.00	.88	.65
39D156F400FL4	15	400	E	2.12	1.06	.93	.69
39D206F400FP4	20	400	F	2.22	1.11	.98	.73
39D256F400GL4	25	400	I	2.30	1.15	1.01	.75
39D356F400GP4	35	400	J	2.46	1.23	1.08	.80
39D406F400HL4	40	400	M	2.56	1.28	1.12	.84
39D556F400HP4	55	400	N	2.78	1.39	1.22	.91
39D656F400HS4	65	400	O	3.00	1.50	1.32	.98
39D756F400JP4	75	400	S	3.10	1.55	1.36	1.01
39D906F400JS4	90	400	T	3.40	1.70	1.49	1.11
39D117F400JT4	110	400	U	3.70	1.85	1.62	1.21
39D105F450EE4	1	450	A	1.80	.90	.79	.59
39D305F450EJ4	3	450	B	1.88	.94	.83	.62
39D505F450EL4	5	450	C	1.94	.97	.85	.63
39D106F450FL4	10	450	E	2.12	1.06	.93	.69
39D156F450FP4	15	450	F	2.22	1.11	.98	.73
39D206F450GL4	20	450	I	2.30	1.15	1.01	.75
39D256F450GP4	25	450	J	2.46	1.23	1.08	.80

***SIZE**

Size in inches (dia. x lg.): **A**, 3/16 x 1¼; **B**, 3/16 x 1¾; **C**, 3/16 x 2¼; **D**, 1 1/16 x 1¾; **E**, 1 1/16 x 2¼; **F**, 1 1/16 x 2¾; **G**, 1 3/16 x 1¼; **H**, 1 3/16 x 1¾; **I**, 1 3/16 x 2¼; **J**, 1 3/16 x 2¾; **K**, 1 5/16 x 1¼; **L**, 1 5/16 x 1¾; **M**, 1 5/16 x 2¼; **N**, 1 5/16 x 2¾; **O**, 1 5/16 x 3¼; **P**, 1 1/16 x 1¼; **Q**, 1 1/16 x 1¾; **R**, 1 1/16 x 2¼; **S**, 1 1/16 x 2¾; **T**, 1 1/16 x 3¼; **U**, 1 1/16 x 3¾.

TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Especially suitable for replacement applications. Maximum space economy at operating temperatures up to 85° C. Low ESR and leakage currents. Extremely long shelf life. Uses most reliable seal developed for aluminum electrolytic capacitors. Pressure-type safety vents employing silicone rubber are used on all cases. Capacitors listed have low-insert terminals; change last character of model no. from A to **B** for high-insert or A to **C** for solder-lug terminals, price on request.



3 WVDC

Sprague Number	Cap., µF	*
36D103G003AA2A	10000	AA1
36D203G003AB2A	20000	AB1
36D303G003AC2A	30000	AC1
36D363G003AD2A	36000	AD1
36D413G003AE2A	41000	AE1
36D463G003AF2A	46000	AF1
36D473G003BB2A	47000	BB1
36D703G003BC2A	70000	BC1
36D803G003CB2A	80000	CB1
36D823G003BD2A	82000	BD1
36D943G003BE2A	94000	BE1
36D104G003BF2A	100000	BF1
36D124G003CC2A	120000	CC1
36D144G003CD2A	140000	CD1
36D164G003CE2A	160000	CE1
36D174G003DC2A	170000	DC1
36D184G003CF2A	180000	CF1
36D204G003DD2A	200000	DD1
36D234G003DE2A	230000	DE1
36D274G003DF2A	270000	DF1

6 WVDC

Sprague Number	Cap., µF	*
36D702G006AA2A	7000	AA1
36D143G006AB2A	14000	AB1
36D213G006AC2A	21000	AC1
36D253G006AD2A	25000	AD1
36D293G006AE2A	29000	AE1
36D323G006AF2A	32000	AF1
36D333G006BB2A	33000	BB1
36D503G006BC2A	50000	BC1
36D573G006CB2A	57000	CB1
36D583G006BD2A	58000	BD1
36D663G006BE2A	66000	BE1
36D753G006BF2A	75000	BF1
36D863G006CC2A	86000	CC1
36D104G006CD2A	100000	CD1
36D114G006CE2A	110000	CE1
36D124G006DC2A	120000	DC1
36D144G006DD2A	140000	DD1
36D164G006DE2A	160000	DE1
36D194G006DF2A	190000	DF1

10 WVDC

Sprague Number	Cap., µF	*
36D602G010AA2A	6000	AA1
36D123G010AB2A	12000	AB1
36D183G010AC2A	18000	AC1
36D213G010AD2A	21000	AD1
36D243G010AE2A	24000	AE1
36D273G010AF2A	27000	AF1
36D283G010BB2A	28000	BB1
36D423G010BC2A	42000	BC1
36D483G010CB2A	48000	CB1
36D493G010BD2A	49000	BD1
36D563G010BE2A	56000	BE1
36D633G010BF2A	63000	BF1
36D723G010CC2A	72000	CC1
36D843G010CD2A	84000	CD1
36D963G010CE2A	96000	CE1
36D104G010CF2A	100000	CF1
36D104G010DC2A	100000	DC1
36D124G010DD2A	120000	DD1
36D144G010DE2A	140000	DE1
36D164G010DF2A	160000	DF1

15 WVDC

Sprague Number	Cap., µF	*
36D462G015AA2A	4600	AA1
36D922G015AB2A	9200	AB1
36D133G015AC2A	13000	AC1
36D163G015AD2A	16000	AD1
36D183G015AE2A	18000	AE1
36D203G015AF2A	20000	AF1
36D213G015BB2A	21000	BB1
36D313G015BC2A	31000	BC1
36D363G015CB2A	36000	BC1
36D373G015BD2A	37000	BD1
36D423G015BE2A	42000	BE1
36D473G015BF2A	47000	BF1
36D543G015CC2A	54000	CC1
36D633G015CD2A	63000	CD1
36D723G015CE2A	72000	CE1
36D803G015DC2A	80000	DC1
36D813G015CF2A	81000	CF1
36D933G015DD2A	93000	DD1
36D104G015DE2A	100000	DE1
36D124G015DF2A	120000	DF1

25 WVDC

Sprague Number	Cap., µF	*
36D272G025AA2A	2700	AA1
36D552G025AB2A	5500	AB1
36D822G025AC2A	8200	AC1
36D962G025AD2A	9600	AD1
36D113G025AE2A	11000	AE1
36D123G025AF2A	12000	AF1
36D183G025BC2A	18000	BC1
36D213G025CB2A	21000	CB1
36D223G025BD2A	22000	BD1
36D253G025BE2A	25000	BE1
36D283G025BF2A	28000	BF1
36D323G025CC2A	32000	CC1
36D383G025CD2A	38000	CD1
36D433G025CE2A	43000	CE1
36D473G025DC2A	47000	DC1
36D483G025CF2A	48000	CF1
36D553G025DD2A	55000	DD1
36D633G025DE2A	63000	DE1
36D713G025DF2A	71000	DF1

30 WVDC

Sprague Number	Cap., µF	*
36D202G030AA2A	2000	AA1
36D402G030AB2A	4000	AB1
36D602G030AC2A	6000	AC1
36D722G030AD2A	7200	AD1
36D832G030AE2A	8300	AE1
36D932G030AF2A	9300	AF1
36D952G030BB2A	9500	BB1
36D143G030BC2A	14000	BC1
36D163G030BD2A	16000	BD1
36D193G030BE2A	19000	BE1
36D213G030BF2A	21000	BF1
36D243G030CC2A	24000	CC1
36D283G030CD2A	28000	CD1
36D323G030CE2A	32000	CE1
36D363G030DC2A	36000	DC1
36D373G030CF2A	37000	CF1
36D423G030DD2A	42000	DD1
36D483G030DE2A	48000	DE1
36D543G030DF2A	54000	DF1

TYPE 36D CONTINUED ON THE FOLLOWING PAGE

SPRAGUE Electrolytic Capacitors

TYPE 36D ELECTROLYTIC CAPACITORS (CONT'D)

40 WVDC

Sprague Number	Cap., µF	*
36D182G040AA2A	1800	AA1
36D362G040AB2A	3600	AB1
36D552G040AC2A	5500	AC1
36D642G040AD2A	6400	AD1
36D732G040AE2A	7300	AE1
36D832G040AF2A	8300	AF1
36D842G040BB2A	8400	BB1
36D123G040BC2A	12000	BC1
36D143G040BD2A	14000	BD1
36D163G040BE2A	16000	BE1
36D193G040BF2A	19000	BF1
36D213G040CC2A	21000	CC1
36D253G040CD2A	25000	CD1
36D283G040CE2A	28000	CE1
36D313G040DC2A	31000	DC1
36D323G040CF2A	32000	CF1
36D373G040DD2A	37000	DD1
36D423G040DE2A	42000	DE1
36D483G040DF2A	48000	DF1

50 WVDC

Sprague Number	Cap., µF	*
36D132G050AA2A	1300	AA1
36D262G050AB2A	2600	AB1
36D392G050AC2A	3900	AC1
36D462G050AD2A	4600	AD1
36D522G050AE2A	5200	AE1
36D592G050AF2A	5900	AF1
36D602G050BB2A	6000	BB1
36D902G050BC2A	9000	BC1
36D103G050BD2A	10000	BD1
36D123G050BE2A	12000	BE1
36D133G050BF2A	13000	BF1
36D153G050CC2A	15000	CC1
36D183G050CD2A	18000	CD1
36D203G050CE2A	20000	CE1
36D223G050DC2A	22000	DC1
36D233G050CF2A	23000	CF1
36D263G050DD2A	26000	DD1
36D303G050DE2A	30000	DE1
36D343G050DF2A	34000	DF1

75 WVDC

Sprague Number	Cap., µF	*
36D172G075AB2A	1700	AB2
36D252G075AC2A	2500	AC2
36D302G075AD2A	3000	AD2
36D342G075AE2A	3400	AE2
36D382G075AF2A	3800	AF2
36D392G075BB2A	3900	BB2
36D592G075BC2A	5900	BC2
36D672G075CB2A	6700	BC2
36D692G075BD2A	6900	BD2
36D782G075BE2A	7800	BE2
36D882G075BF2A	8800	BF2
36D103G075CC2A	10000	CC2
36D113G075CD2A	11000	CD2
36D133G075CE2A	13000	CE2
36D143G075DC2A	14000	DC2
36D153G075CF2A	15000	CF2
36D173G075DD2A	17000	DD2
36D203G075DE2A	20000	DE2
36D223G075DF2A	22000	DF2

100 WVDC

Sprague Number	Cap., µF	*
36D451G100AA2A	450	AA2
36D901G100AB2A	900	AB2
36D132G100AC2A	1300	AC2
36D152G100AD2A	1500	AD2
36D182G100AE2A	1800	AE2
36D202G100AF2A	2000	AF2
36D302G100BC2A	3000	BC2
36D352G100CB2A	3500	BC2
36D362G100BD2A	3600	BD2
36D402G100BE2A	4000	BE2
36D452G100BF2A	4500	BF2
36D532G100CC2A	5300	CC2
36D612G100CD2A	6100	CD2
36D702G100CE2A	7000	CE2

100 WVDC (CONT'D)

Sprague Number	Cap., µF	*
36D782G100CF2A	7800	CF2
36D782G100DC2A	7800	DC2
36D912G100DD2A	9100	DD2
36D103G100DE2A	10000	DE2
36D113G100DF2A	11000	DF2

150 WVDC

Sprague Number	Cap., µF	*
36D301F150AA2A	300	AA2
36D601F150AB2A	600	AB2
36D901F150AC2A	900	AC2
36D112F150AD2A	1100	AD2
36D122F150AE2A	1200	AE2
36D132F150AF2A	1300	AF2
36D142F150BB2A	1400	BB2
36D212F150BC2A	2100	BC2
36D242F150BD2A	2400	BD2
36D272F150BE2A	2700	BE2
36D312F150BF2A	3100	BF2
36D362F150CC2A	3600	CC2
36D422F150CD2A	4200	CD2
36D472F150CE2A	4700	CE2
36D532F150CF2A	5300	CF2
36D532F150DC2A	5300	DC2
36D622F150DD2A	6200	DD2
36D702F150DE2A	7000	DE2
36D782F150DF2A	7800	DF2

200 WVDC

Sprague Number	Cap., µF	*
36D251F200AA2A	250	AA2
36D431F200AB2A	430	AB2
36D641F200AC2A	640	AC2
36D771F200AD2A	770	AD2
36D851F200AE2A	850	AE2
36D951F200AF2A	950	AF2
36D142F200BC2A	1400	BC2
36D162F200CB2A	1600	CB2
36D172F200BD2A	1700	BD2
36D192F200BE2A	1900	BE2
36D212F200BF2A	2100	BF2
36D252F200CC2A	2500	CC2
36D292F200CD2A	2900	CD2
36D332F200CE2A	3300	CE2
36D372F200CF2A	3700	CF2
36D372F200DC2A	3700	DC2
36D432F200DD2A	4300	DD2
36D482F200DE2A	4800	DE2
36D552F200DF2A	5500	DF2

250 WVDC

Sprague Number	Cap., µF	*
36D171F250AA2A	170	AA2
36D351F250AB2A	350	AB2
36D531F250AC2A	530	AC2
36D631F250AD2A	630	AD2
36D701F250AE2A	700	AE2
36D781F250AF2A	780	AF2
36D801F250BB2A	800	BB2
36D122F250BC2A	1200	BC2
36D132F250CB2A	1300	CB2
36D142F250BD2A	1400	BD2
36D152F250BE2A	1500	BE2
36D172F250BF2A	1700	BF2
36D202F250CC2A	2000	CC2
36D242F250CD2A	2400	CD2
36D272F250CE2A	2700	CE2
36D302F250CF2A	3000	CF2
36D302F250DC2A	3000	DC2
36D352F250DD2A	3500	DD2
36D402F250DE2A	4000	DE2
36D452F250DF2A	4500	DF2

300 WVDC

Sprague Number	Cap., µF	*
36D121F300AA2A	120	AA2
36D241F300AB2A	240	AB2
36D371F300AC2A	370	AC2
36D451F300AD2A	450	AD2
36D501F300AE2A	500	AE2
36D551F300AF2A	550	AF2

300 WVDC (CONT'D)

Sprague Number	Cap., µF	*
36D821F300BC2A	820	BC2
36D951F300BD2A	950	BD2
36D112F300BE2A	1100	BE2
36D122F300BF2A	1200	BF2
36D142F300CC2A	1400	CC2
36D162F300CD2A	1600	CD2
36D182F300CE2A	1800	CE2
36D212F300CF2A	2100	CF2
36D212F300DC2A	2100	DC2
36D242F300DD2A	2400	DD2
36D272F300DE2A	2700	DE2
36D312F300DF2A	3100	DF2

350 WVDC

Sprague Number	Cap., µF	*
36D950F350AA2A	95	AA2
36D191F350AB2A	190	AB2
36D291F350AC2A	290	AC2
36D361F350AD2A	360	AD2
36D391F350AE2A	390	AE2
36D421F350BB2A	420	BB2
36D441F350AF2A	440	AF2
36D651F350BC2A	650	BC2
36D751F350CB2A	750	CB2
36D781F350BD2A	780	BD2
36D881F350BE2A	880	BE2
36D102F350BF2A	1000	BF2
36D112F350CC2A	1100	CC2
36D132F350CD2A	1300	CD2
36D152F350CE2A	1500	CE2
36D162F350DC2A	1600	DC2
36D172F350CF2A	1700	CF2
36D192F350DD2A	1900	DD2
36D222F350DE2A	2200	DE2
36D252F350DF2A	2500	DF2

400 WVDC

Sprague Number	Cap., µF	*
36D650F400AA2A	65	AA2
36D121F400AB2A	120	AB2
36D191F400AC2A	190	AC2
36D231F400AD2A	230	AD2
36D271F400AE2A	270	AE2
36D291F400BB2A	290	BB2
36D301F400AF2A	300	AF2
36D421F400BC2A	420	BC2
36D491F400CB2A	490	CB2
36D531F400BD2A	530	BD2
36D611F400BE2A	610	BE2
36D681F400BF2A	680	BF2
36D791F400CC2A	790	CC2
36D911F400CD2A	910	CD2
36D102F400CE2A	1000	CE2
36D102F400DC2A	1000	DC2
36D112F400CF2A	1100	CF2
36D122F400DD2A	1200	DD2
36D142F400DE2A	1400	DE2
36D162F400DF2A	1600	DF2

450 WVDC

Sprague Number	Cap., µF	*
36D500F450AA2A	50	AA2
36D101F450AB2A	100	AB2
36D141F450AC2A	140	AC2
36D171F450AD2A	170	AD2
36D191F450AE2A	190	AE2
36D211F450AF2A	210	AF2
36D221F450BB2A	220	BB2
36D331F450BC2A	330	BC2
36D381F450CB2A	380	CB2
36D391F450BD2A	390	BD2
36D441F450BE2A	440	BE2
36D491F450BF2A	490	BF2
36D571F450CC2A	570	CC2
36D661F450CD2A	660	CD2
36D761F450CE2A	760	CE2
36D851F450CF2A	850	CF2
36D861F450DC2A	860	DC2
36D102F450DD2A	1000	DD2
36D112F450DE2A	1100	DE2
36D122F450DF2A	1200	DF2

*CASE SIZES AND PRICES

* Code	Size, Inches Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
AA1	1 7/16 x 2 1/4	$2.90	$2.32	$2.03	$1.57	$1.45
AA2	1 7/16 x 2 1/4	3.08	2.46	2.15	1.66	1.54
AB1	1 7/16 x 3 1/4	3.50	2.80	2.45	1.89	1.75
AB2	1 7/16 x 3 1/4	3.78	3.02	2.64	2.04	1.89
AC1	1 7/16 x 4 1/4	4.10	3.28	2.87	2.21	2.05
AC2	1 7/16 x 4 1/4	4.43	3.54	3.10	2.39	2.21
AD1	1 7/16 x 4 3/4	4.40	3.52	3.08	2.38	2.20
AD2	1 7/16 x 4 3/4	4.78	3.82	3.34	2.58	2.39
AE1	1 7/16 x 5 1/4	4.70	3.76	3.29	2.54	2.35
AE2	1 7/16 x 5 1/4	5.13	4.10	3.59	2.77	2.56
AF1	1 7/16 x 5 3/4	5.00	4.00	3.50	2.70	2.50
AF2	1 7/16 x 5 3/4	5.45	4.36	3.82	2.94	2.73
BB1	2 1/16 x 3 1/4	5.18	4.14	3.62	2.79	2.59
BB2	2 1/16 x 3 1/4	5.40	4.32	3.78	2.92	2.70
BC1	2 1/16 x 4 1/4	6.13	4.90	4.29	3.31	3.06
BC2	2 1/16 x 4 1/4	6.80	5.44	4.76	3.67	3.40
BD1	2 1/16 x 4 3/4	6.75	5.40	4.73	3.65	3.38
BD2	2 1/16 x 4 3/4	7.60	6.08	5.32	4.10	3.80
BE1	2 1/16 x 5 1/4	7.25	5.80	5.08	3.92	3.63
BE2	2 1/16 x 5 1/4	8.30	6.64	5.81	4.48	4.15

* Code	Size, Inches Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
BF1	2 1/16 x 5 3/4	$ 7.57	$ 6.20	$ 5.43	$ 4.19	$ 3.88
BF2	2 1/16 x 5 3/4	9.00	7.20	6.30	4.86	4.50
CB1	2 3/4 x 3 1/4	7.03	5.62	4.92	3.79	3.51
CB2	2 3/4 x 3 1/4	8.48	6.78	5.93	4.58	4.24
CC1	2 3/4 x 4 1/4	8.90	7.12	6.23	4.81	4.45
CC2	2 3/4 x 4 1/4	10.68	8.54	7.47	5.76	5.34
CD1	2 3/4 x 4 3/4	9.83	7.86	6.88	5.31	4.91
CD2	2 3/4 x 4 3/4	11.83	9.46	8.28	6.39	5.91
CE1	2 3/4 x 5 1/4	11.05	8.84	7.74	5.79	5.53
CE2	2 3/4 x 5 1/4	13.03	10.42	9.12	7.03	6.51
CF1	2 3/4 x 5 3/4	11.98	9.58	8.38	6.47	5.99
CF2	2 3/4 x 5 3/4	14.05	11.24	9.84	7.59	7.03
DC1	3 1/16 x 4 1/4	12.55	10.04	8.79	6.78	6.28
DC2	3 1/16 x 4 1/4	15.10	12.08	10.57	8.15	7.55
DD1	3 1/16 x 4 3/4	14.18	11.34	9.92	7.65	7.09
DD2	3 1/16 x 4 3/4	16.85	13.48	11.80	9.10	8.43
DE1	3 1/16 x 5 1/4	15.50	12.40	10.85	8.37	7.75
DE2	3 1/16 x 5 1/4	18.30	14.64	12.81	9.88	9.15
DF1	3 1/16 x 5 3/4	16.83	13.46	11.78	9.09	8.41
DF2	3 1/16 x 5 3/4	19.70	15.76	13.79	10.64	9.85

192P PACER® FILMITE® "E" CAPACITORS

Extended foil film sections are terminated in end caps with wire leads, to assure the best possible non-inductive section. Protected by heat shrinkable plastic sleeve or epoxy coating. Designed for operation to 85° C. Tolerance, ±10%.

80 WVDC

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P2229R8	.0022	.138 x 5/16	$0.54	$0.32	$0.249	$0.213
192P2729R8	.0027	.138 x 5/16	.54	.32	.249	.213
192P3329R8	.0033	.138 x 5/16	.54	.32	.249	.213
192P3929R8	.0039	.138 x 5/16	.54	.32	.249	.213
192P4729R8	.0047	.138 x 5/16	.54	.32	.249	.213
192P5629R8	.0056	.170 x 3/8	.54	.32	.249	.213
192P6829R8	.0068	.170 x 3/8	.54	.32	.249	.213
192P8229R8	.0082	.170 x 3/8	.54	.32	.249	.213
192P1039R8	.01	.170 x 3/8	.48	.299	.233	.20
192P1239R8	.012	.170 x 7/16	.54	.322	.25	.215
192P1539R8	.015	.170 x 7/16	.57	.344	.268	.23
192P1839R8	.018	.170 x 1/2	.57	.349	.271	.233
192P2239R8	.022	.170 x 1/2	.57	.356	.277	.237
192P2739R8	.027	.204 x 7/16	.60	.36	.28	.24
192P3339R8	.033	.204 x 7/16	.60	.356	.284	.243
192P3939R8	.039	.204 x 9/16	.60	.374	.291	.249
192P4739R8	.047	.204 x 9/16	.63	.383	.298	.255
192P5639R8	.056	.225 x 9/16	.63	.394	.306	.263
192P6839R8	.068	.225 x 9/16	.69	.414	.322	.276
192P8239R8	.082	.290 x 1/2	.72	.432	.336	.288
192P1049R8	.1	.290 x 1/2	.72	.441	.343	.294
192P1249R8	.12	.290 x 5/8	.84	.522	.406	.348
192P1549R8	.15	.290 x 5/8	.90	.56	.436	.374
192P1849R8	.18	.318 x 5/8	.99	.617	.48	.411
192P2249R8	.22	.318 x 5/8	1.11	.677	.527	.452
192P2749R8	.27	.318 x 7/8	1.17	.725	.564	.483
192P3349R8	.33	.318 x 7/8	1.23	.765	.595	.51
192P3949R8	.39	.318 x 1 3/16	1.32	.81	.63	.54
192P4749R8	.47	.318 x 1 3/16	1.38	.855	.665	.57

200 WVDC

192P10192	.0001	.138 x 5/16	$0.45	$0.275	$0.214	$0.183
192P12192	.00012	.138 x 5/16	.45	.275	.214	.183
192P15192	.00015	.138 x 5/16	.45	.275	.214	.183
192P18192	.00018	.138 x 5/16	.45	.275	.214	.183
192P22192	.00022	.138 x 5/16	.45	.275	.214	.183
192P27192	.00027	.138 x 5/16	.45	.275	.214	.183
192P33192	.00033	.138 x 5/16	.45	.275	.214	.183
192P39192	.00039	.138 x 5/16	.45	.275	.214	.183
192P47192	.00047	.138 x 5/16	.45	.275	.214	.183
192P56192	.00056	.138 x 5/16	.42	.25	.194	.167
192P68192	.00068	.138 x 5/16	.42	.25	.194	.167
192P82192	.00082	.138 x 5/16	.42	.25	.194	.167
192P10292	.001	.138 x 5/16	.36	.221	.172	.147
192P12292	.0012	.138 x 5/16	.36	.221	.172	.147
192P15292	.0015	.138 x 5/16	.36	.221	.172	.147
192P18292	.0018	.170 x 5/16	.36	.221	.172	.147

200 WVDC (CONTINUED)

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P22292	.0022	.170 x 5/16	$0.36	$0.223	$0.173	$0.149
192P27292	.0027	.170 x 5/16	.36	.223	.173	.149
P19233292	.0033	.170 x 5/16	.36	.223	.173	.149
192P39292	.0039	.170 x 7/16	.36	.225	.175	.15
192P47292	.0047	.170 x 7/16	.39	.227	.177	.152
192P56292	.0056	.170 x 7/16	.39	.23	.179	.153
192P68292	.0068	.170 x 7/16	.39	.232	.18	.155
192P82292	.0082	.170 x 1/2	.39	.243	.189	.162
192P10392	.01	.170 x 1/2	.42	.248	.193	.165
192P12392	.012	.204 x 7/16	.42	.252	.196	.168
192P15392	.015	.204 x 7/16	.42	.254	.198	.17
192P18392	.018	.204 x 9/16	.42	.261	.203	.174
192P22392	.022	.204 x 9/16	.45	.266	.207	.177
192P27392	.027	.225 x 9/16	.45	.281	.219	.188
192P33392	.033	.225 x 9/16	.48	.295	.229	.197
192P39392	.039	.290 x 1/2	.51	.311	.242	.207
192P47392	.047	.290 x 1/2	.54	.324	.252	.216
192P56392	.056	.290 x 5/8	.57	.342	.266	.228
192P68392	.068	.290 x 5/8	.60	.36	.28	.24
192P82392	.082	.318 x 5/8	.63	.378	.294	.252
192P10492	.1	.318 x 5/8	.63	.394	.306	.263
192P12492	.12	.318 x 7/8	.69	.414	.322	.276
192P15492	.15	.318 x 7/8	.78	.473	.368	.315
192P18492	.18	.318 x 1 3/16	.81	.502	.39	.335
192P22492	.22	.318 x 1 3/16	.90	.558	.434	.372

400 WVDC

192P47194	.00047	.170 x 3/8	$0.45	$0.275	$0.214	$0.183
192P56194	.00056	.170 x 3/8	.45	.275	.214	.183
192P68194	.00068	.170 x 3/8	.45	.263	.205	.176
192P82194	.00082	.170 x 3/8	.45	.281	.219	.188
192P10294	.001	.170 x 3/8	.45	.281	.219	.188
192P12294	.0012	.170 x 3/8	.45	.281	.219	.188
192P15294	.0015	.170 x 3/8	.36	.221	.172	.147
192P18294	.0018	.170 x 7/16	.48	.286	.222	.191
192P22294	.0022	.170 x 7/16	.48	.286	.222	.191
192P27294	.0027	.204 x 7/16	.48	.286	.222	.191
192P33294	.0033	.204 x 7/16	.48	.286	.222	.191
192P39294	.0039	.204 x 7/16	.48	.286	.222	.191
192P47294	.0047	.204 x 7/16	.48	.286	.222	.191
192P56294	.0056	.225 x 9/16	.48	.288	.224	.192
192P68294	.0068	.225 x 9/16	.48	.288	.224	.192
192P82294	.0082	.225 x 9/16	.48	.29	.226	.194
192P10394	.01	.225 x 9/16	.48	.29	.226	.194
192P12394	.012	.290 x 1/2	.51	.317	.247	.212
192P15394	.015	.290 x 1/2	.54	.324	.252	.216
192P18394	.018	.290 x 5/8	.57	.342	.266	.228
192P22394	.022	.290 x 5/8	.57	.356	.277	.237
192P27394	.027	.318 x 5/8	.60	.374	.291	.249
192P33394	.033	.318 x 5/8	.63	.383	.298	.255
192P39394	.039	.318 x 7/8	.69	.425	.331	.284
192P47394	.047	.318 x 7/8	.72	.441	.343	.294
192P56394	.056	.318 x 1 3/16	.75	.452	.352	.302
192P68394	.068	.318 x 1 3/16	.75	.466	.362	.311

*Quantities of 1–24 supplied in Kleer-Pak; larger quantities in bulk pack. Prices on 250–499 and 500–999 quantities available on request.

TYPE AB PLASTIC-ENCASED ELECTROLYTICS

- **For intermittent duty cycles in motor starting applications.**
- **Housed in molded phenolic cases for protection against moisture, dirt, grease, etc.**
- **Dual-blade universal terminals for use with "quick-connect" connectors. Terminals also have notches and eyes for wrapping leads if connections are to be soldered.**
- **Operating Temperature: −30° C to +65° C.**
- **Included are two clip-on terminal adapters, equipped with screws, for lead wires without soldering.**
- **Only a single end cap and clip-type bracket are needed for easy mounting on any modern motor.**

165 VOLTS AC, 60 Hz

60,000 starts min. with one 1-sec start per minute.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-1613	108–130	1 7/16 x 3 3/8	$2.10
AB-1616	124–149	1 7/16 x 3 3/8	2.32
AB-1619	130–156	1 13/16 x 3 3/8	2.43
AB-1622	145–175	1 13/16 x 3 3/8	2.69
AB-1625	161–193	1 13/16 x 3 3/8	2.75
AB-1628	189–227	1 13/16 x 3 3/8	3.12
AB-1631	216–259	1 13/16 x 3 3/8	3.16
AB-1634	233–280	1 13/16 x 4 3/8	3.61
AB-1637	243–292	1 13/16 x 4 3/8	3.71
AB-1640	270–324	1 13/16 x 4 3/8	3.95
AB-1643	340–408	2 1/16 x 4 3/8	4.98
AB-1646	378–440	2 1/16 x 4 3/8	5.18
AB-1649	400–480	2 1/16 x 4 3/8	5.30

125 VOLTS AC, 60 Hz

120,000 starts min. with two ¾-sec starts per minute.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-1201	21–25	1 7/16 x 2 3/4	$1.30
AB-1202	25–30	1 7/16 x 2 3/4	1.32
AB-1203	30–36	1 7/16 x 2 3/4	1.35
AB-1204	38–46	1 7/16 x 2 3/4	1.42
AB-1205	43–53	1 7/16 x 2 3/4	1.44
AB-1207	53–64	1 7/16 x 2 3/4	1.50
AB-1208	64–77	1 7/16 x 2 3/4	1.53
AB-1209	72–88	1 7/16 x 2 3/4	1.54
AB-1210	88–108	1 7/16 x 2 3/4	1.58
AB-1213	108–130	1 7/16 x 2 3/4	1.65
AB-1216	124–149	1 7/16 x 2 3/4	1.65
AB-1219	130–156	1 7/16 x 2 3/4	1.69
AB-1222	145–175	1 7/16 x 2 3/4	1.79
AB-1225	161–193	1 7/16 x 2 3/4	1.93
AB-1228	189–227	1 7/16 x 2 3/4	2.07
AB-1230	200–240	1 7/16 x 2 3/4	2.25
AB-1231	216–259	1 7/16 x 3 3/8	2.51
AB-1234	233–280	1 7/16 x 3 3/8	2.56
AB-1237	243–292	1 7/16 x 3 3/8	2.62
AB-1240	270–324	1 7/16 x 3 3/8	2.81
AB-1242	324–388	1 13/16 x 3 3/8	3.08
AB-1243	340–408	1 13/16 x 3 3/8	3.18
AB-1246	378–440	1 13/16 x 3 3/8	3.38
AB-1249	400–480	1 13/16 x 3 3/8	3.51
AB-1252	430–516	1 13/16 x 3 3/8	3.84
AB-1255	460–552	1 13/16 x 3 3/8	4.03
AB-1258	540–648	1 13/16 x 4 3/8	4.97
AB-1261	590–708	1 13/16 x 4 3/8	5.64
AB-1262	705–845	2 1/16 x 4 3/8	5.99
AB-1263	800–920	2 1/16 x 4 3/8	6.40
AB-1265	1000–1200	2 9/16 x 4 3/8	6.62

250 VOLTS AC, 60 Hz

40,000 starts min. with 40 1-sec starts per hour.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-2501	21–25	1 7/16 x 2 3/4	$2.10
AB-2502	25–30	1 7/16 x 2 3/4	2.13
AB-2503	30–36	1 7/16 x 3 3/8	2.28
AB-2504	36–43	1 7/16 x 3 3/8	2.35
AB-2505	43–53	1 7/16 x 3 3/8	2.39
AB-2506	47–56	1 7/16 x 3 3/8	2.47
AB-2507	53–64	1 13/16 x 3 3/8	2.78
AB-2508	64–77	1 13/16 x 3 3/8	3.02
AB-2509	72–88	1 13/16 x 3 3/8	3.19
AB-2510	88–108	1 13/16 x 4 3/8	3.77
AB-2512	108–130	1 13/16 x 4 3/8	4.29
AB-2516	124–149	1 13/16 x 4 3/8	4.59
AB-2519	130–156	1 13/16 x 4 3/8	5.25
AB-2522	145–175	2 1/16 x 4 3/8	5.29
AB-2525	161–193	2 1/16 x 4 3/8	5.63
AB-2528	189–227	2 1/16 x 4 3/8	6.33
AB-2531	216–259	2 9/16 x 4 3/8	6.70
AB-2532	233–280	2 9/16 x 4 3/8	7.19
AB-2533	280–333	2 9/16 x 4 3/8	7.29

330 VOLTS AC, 60 Hz

40,000 starts min. with 40 1-sec starts per hour.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-3201	21–25	1 7/16 x 3 3/8	$2.17
AB-3202	25–30	1 7/16 x 3 3/8	2.33
AB-3203	30–36	1 13/16 x 3 3/8	2.61
AB-3204	36–43	1 13/16 x 3 3/8	2.82
AB-3205	43–53	1 13/16 x 3 3/8	2.98
AB-3207	53–64	1 13/16 x 4 3/8	3.25
AB-3208	64–77	1 13/16 x 4 3/8	3.98
AB-3209	72–88	2 1/16 x 4 3/8	4.36
AB-3210	88–108	2 1/16 x 4 3/8	4.83
AB-3213	108–130	2 9/16 x 4 3/8	5.83
AB-3216	124–149	2 9/16 x 4 3/8	6.26
AB-3219	130–156	2 9/16 x 4 3/8	6.44
AB-3222	145–175	2 9/16 x 4 3/8	6.90
AB-3225	161–193	2 9/16 x 4 3/8	7.42
AB-3226	189–227	2 9/16 x 4 3/8	8.37
AB-3227	216–259	2 9/16 x 4 3/8	8.50

SPRAGUE TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS

Small, dependable dry electrolytic. Low leakage; long shelf life. Withstands high temp. (85° C); high ripple currents and high surge voltages. Metal case with thermoplastic outer insulating sleeve except as noted.

POLARIZED SINGLE UNITS

Sprague No. TVA-	μF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of 1-49	50-99	100-249*	250-499*
1081	1	3	1/4 x 17/32	$0.734	$0.408	$0.306	$0.255
1081.1	2	3	1/4 x 17/32	.734	.408	.306	.255
1081.2	3	3	1/4 x 17/32	.734	.408	.306	.255
1081.3	4	3	1/4 x 17/32	.734	.408	.306	.255
1081.4	5	3	1/4 x 17/32	.734	.408	.306	.255
1081.5	6	3	1/4 x 17/32	.734	.408	.306	.255
1081.6	8	3	1/4 x 17/32	.734	.408	.306	.255
1082	10	3	1/4 x 17/32	.734	.408	.306	.255
1082.5	15	3	1/4 x 17/32	.734	.408	.306	.255
1083	20	3	1/4 x 17/32	.734	.408	.306	.255
1084	25	3	1/4 x 17/32	.734	.408	.306	.255
1084.5	30	3	1/4 x 17/32	.734	.408	.306	.255
1085	50	3	1/4 x 23/32	.767	.426	.32	.266
1085.5	65	3	1/4 x 23/32	.767	.426	.32	.266
1088	75	3	5/16 x 23/32	.792	.44	.33	.275
1089	100	3	5/16 x 23/32	.792	.44	.33	.275
1089.5	130	3	5/16 x 23/32	.792	.44	.33	.275
1090	150	3	5/16 x 27/32	.828	.46	.345	.288
1091	200	3	5/16 x 27/32	.828	.46	.345	.288
1091.5	250	3	3/8 x 27/32	.839	.466	.35	.291
1092	300	3	3/8 x 27/32	.839	.466	.35	.291
1093	400	3	3/8 x 31/32	.857	.476	.357	.298
1094	500	3	3/8 x 1 9/32	.918	.51	.383	.319
1095	600	3	3/8 x 1 9/32	.918	.51	.383	.319
1097	750	3	3/8 x 1 17/32	.95	.528	.396	.33
1097.1	800	3	3/8 x 1 17/32	.95	.528	.396	.33
1097.2	900	3	7/16 x 1 9/32	1.08	.60	.45	.375
1097.3	1000	3	7/16 x 1 17/32	1.138	.632	.474	.395
1097.4	1200	3	7/16 x 1 17/32	1.138	.632	.474	.395
1097.5	1500	3	1/2 x 1 17/32	1.534	.852	.639	.533
1097.6	1800	3	1/2 x 1 17/32	1.534	.852	.639	.533
1097.7	2000	3	1/2 x 1 17/32	1.534	.852	.639	.533
1097.8	2200	3	1/2 x 1 13/16	1.616	.898	.674	.561
1097.9	2500	3	1/2 x 1 13/16	1.616	.898	.674	.561
1098	3000	3	3/4 x 1 21/32	1.613	.896	.672	.56
1099	4000	3	13/16 x 1 21/32	1.667	.926	.695	.579
1099.1	5000	3	13/16 x 1 29/32	1.883	1.046	.785	.654
1099.6	10000	3	15/16 x 2 5/32	2.531	1.406	1.055	.879
1099.80	1	6	1/4 x 17/32	.734	.408	.306	.255
1099.81	2	6	1/4 x 17/32	.734	.408	.306	.255
1099.82	3	6	1/4 x 17/32	.734	.408	.306	.255
1099.83	4	6	1/4 x 17/32	.734	.408	.306	.255
1099.84	5	6	1/4 x 17/32	.734	.408	.306	.255
1099.85	6	6	1/4 x 17/32	.734	.408	.306	.255
1099.86	8	6	1/4 x 17/32	.734	.408	.306	.255
1099.87	10	6	1/4 x 17/32	.734	.408	.306	.255
1099.89	15	6	1/4 x 17/32	.734	.408	.306	.255
1099.90	20	6	1/4 x 17/32	.734	.408	.306	.255
1099.91	25	6	1/4 x 23/32	.767	.426	.32	.266
1099.93	35	6	1/4 x 23/32	.767	.426	.32	.266
1100	50	6	1/4 x 23/32	.767	.426	.32	.266
1100.5	75	6	5/16 x 23/32	.792	.44	.33	.275
1100.6	90	6	5/16 x 23/32	.792	.44	.33	.275
1101	100	6	5/16 x 27/32	.828	.46	.345	.288
1101.2	140	6	5/16 x 27/32	.828	.46	.345	.288
1101.5	150	6	3/8 x 27/32	.839	.466	.35	.291
1101.7	200	6	3/8 x 27/32	.839	.466	.35	.291
1102	250	6	3/8 x 31/32	.857	.476	.357	.298
1102.1	300	6	3/8 x 31/32	.857	.476	.357	.298
1102.3	400	6	3/8 x 1 9/32	.918	.51	.383	.319
1103	500	6	3/8 x 1 17/32	.95	.528	.396	.33
1103.2	600	6	3/8 x 1 17/32	.95	.528	.396	.33
1103.4	700	6	7/16 x 1 9/32	1.08	.60	.45	.375
1103.8	800	6	7/16 x 1 17/32	1.138	.632	.474	.395
1103.9	950	6	7/16 x 1 17/32	1.138	.632	.474	.395
1104	1000	6	1/2 x 1 9/32	1.138	.632	.474	.395
1104.1	1200	6	1/2 x 1 17/32	1.534	.852	.639	.533
1105	1500	6	1/2 x 1 17/32	1.534	.852	.639	.533
1105.1	1800	6	1/2 x 1 29/32	1.616	.898	.674	.561
1106	2000	6	1/2 x 1 29/32	1.616	.898	.674	.561
1106.5	2500	6	3/4 x 1 21/32	1.613	.896	.672	.56
1107	3000	6	3/4 x 1 29/32	1.667	.926	.695	.579
1108	4000	6	7/8 x 1 29/32	1.937	1.076	.807	.673
1109	5000	6	7/8 x 1 29/32	1.937	1.076	.807	.673
1115	10000	6	1 x 2 13/32	2.794	1.552	1.164	.970
1128	1000	10	1/2 x 1 13/16	1.616	.898	.674	.561
1129.2	3000	10	7/8 x 1 21/32	1.768	.982	.737	.614
1129.4	4000	10	7/8 x 1 29/32	1.937	1.076	.807	.673
1129.5	5000	10	1 x 2 5/32	2.693	1.496	1.122	.935
1129.8	10000	10	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1129.80	1	12	1/4 x 17/32	.734	.408	.306	.255
1129.81	2	12	1/4 x 17/32	.734	.408	.306	.255
1129.82	3	12	1/4 x 17/32	.734	.408	.306	.255
1129.83	4	12	1/4 x 17/32	.734	.408	.306	.255
1129.84	5	12	1/4 x 17/32	.734	.408	.306	.255
1129.85	6	12	1/4 x 17/32	.734	.408	.306	.255
1129.86	8	12	1/4 x 17/32	.734	.408	.306	.255
1129.87	10	12	1/4 x 17/32	.734	.408	.306	.255
1129.89	15	12	1/4 x 17/32	.734	.408	.306	.255
1129.90	20	12	1/4 x 23/32	.767	.426	.32	.266
1129.91	25	12	1/4 x 23/32	.767	.426	.32	.266
1129.92	30	12	1/4 x 23/32	.767	.426	.32	.266
1129.94	50	12	5/16 x 23/32	.792	.44	.33	.275
1129.95	60	12	5/16 x 23/32	.792	.44	.33	.275

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	μF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of 1-49	50-99	100-249*	250-499*
1129.96	75	12	5/16 x 27/32	$0.828	$0.46	$0.345	$0.288
1129.97	90	12	3/8 x 23/32	.828	.46	.345	.288
1130	100	12	5/16 x 23/32	.828	.46	.345	.288
1130.2	140	12	3/8 x 27/32	.839	.466	.35	.291
1130.3	150	12	3/8 x 31/32	.857	.476	.357	.298
1130.5	190	12	3/8 x 31/32	.857	.476	.357	.298
1130.6	200	12	3/8 x 1 9/32	.918	.51	.383	.319
1131	250	12	3/8 x 1 9/32	.918	.51	.383	.319
1131.1	290	12	3/8 x 1 9/32	.918	.51	.383	.319
1131.2	390	12	3/8 x 1 17/32	.95	.528	.396	.33
1131.3	400	12	7/16 x 1 9/32	1.08	.60	.45	.375
1131.5	450	12	7/16 x 1 9/32	1.08	.60	.45	.375
1132	500	12	7/16 x 1 17/32	1.138	.632	.474	.395
1132.2	600	12	7/16 x 1 17/32	1.138	.632	.474	.395
1132.4	800	12	1/2 x 1 9/16	1.534	.852	.639	.533
1132.5	900	12	1/2 x 1 13/16	1.616	.898	.674	.561
1133	1000	12	1/2 x 1 13/16	1.616	.898	.674	.561
1133.4	1200	12	1/2 x 1 13/16	1.616	.898	.674	.561
1133.5	1500	12	3/4 x 1 21/32	1.613	.896	.672	.56
1134	2000	12	7/8 x 1 21/32	1.667	.926	.695	.579
1134.5	2500	12	7/8 x 1 21/32	1.768	.982	.737	.614
1135	3000	12	7/8 x 2 5/32	1.768	.982	.737	.614
1136	4000	12	15/16 x 2 5/32	2.531	1.406	1.055	.879
1136.1	5000	12	1 x 2 13/32	2.808	1.56	1.17	.975
1137	10000	12	1 1/4 x 2 11/16	2.988	1.66	1.245	1.038
1140	1	16	1/4 x 17/32	.734	.408	.306	.255
1141	2	16	1/4 x 17/32	.734	.408	.306	.255
1142	3	16	1/4 x 17/32	.734	.408	.306	.255
1143	4	16	1/4 x 17/32	.734	.408	.306	.255
1144	5	16	1/4 x 17/32	.734	.408	.306	.255
1144.1	6	16	1/4 x 17/32	.734	.408	.306	.255
1144.2	8	16	1/4 x 17/32	.734	.408	.306	.255
1145	10	16	1/4 x 17/32	.734	.408	.306	.255
1146	15	16	1/4 x 23/32	.767	.426	.306	.255
1147	20	16	1/4 x 23/32	.767	.426	.306	.255
1148	25	16	1/4 x 23/32	.767	.426	.306	.255
1149	30	16	5/16 x 23/32	.792	.44	.33	.275
1149.1	35	16	5/16 x 23/32	.792	.44	.33	.275
1150	50	16	5/16 x 23/32	.792	.44	.33	.275
1151	75	16	5/16 x 27/32	.828	.46	.345	.288
1152	85	16	3/8 x 23/32	.828	.46	.345	.288
1153	90	16	5/16 x 27/32	.828	.46	.345	.288
1160	100	16	3/8 x 27/32	.839	.466	.35	.291
1160.2	130	16	3/8 x 27/32	.839	.466	.35	.291
1160.3	150	16	3/8 x 31/32	.857	.476	.357	.298
1160.4	175	16	3/8 x 31/32	.857	.476	.357	.298
1160.5	180	16	3/8 x 31/32	.857	.476	.357	.292
1160.6	200	16	3/8 x 1 9/32	.918	.51	.383	.319
1161	250	16	3/8 x 1 9/32	.918	.51	.383	.319
1161.1	300	16	3/8 x 1 17/32	.95	.528	.396	.33
1161.2	350	16	3/8 x 1 17/32	.95	.528	.396	.33
1161.5	400	16	7/16 x 1 9/32	1.08	.60	.45	.375
1161.6	450	16	7/16 x 1 17/32	1.138	.632	.474	.395
1162	500	16	7/16 x 1 17/32	1.138	.632	.474	.395
1162.2	600	16	7/16 x 1 17/32	1.138	.632	.474	.395
1162.3	800	16	1/2 x 1 9/16	1.534	.852	.639	.533
1163	1000	16	1/2 x 1 13/16	1.616	.898	.674	.561
1164	1200	16	1/2 x 1 13/16	1.616	.898	.674	.561
1175.2	1500	16	13/16 x 1 21/32	1.667	.926	.695	.579
1170*	2000	16	13/16 x 1 21/32	1.667	.926	.695	.579
1175.3	2500	16	7/8 x 1 29/32	1.937	1.076	.807	.673
1175	3000	16	7/8 x 1 29/32	1.937	1.076	.807	.673
1175.4	4000	16	15/16 x 2 5/32	2.531	1.406	1.055	.879
1175.5	5000	16	1 x 2 5/32	2.819	1.566	1.175	.979
1175.6	6000	16	1 1/8 x 2 5/32	2.819	1.566	1.175	.979
1175.7	8000	16	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1175.8	10000	16	1 1/4 x 2 11/16	2.988	1.66	1.245	1.038
1175.11	15000	16	1 1/4 x 3 11/16	4.306	2.392	1.794	1.495
1175.13	20000	16	1 3/8 x 4 5/32	5.393	2.996	2.247	1.873
1180	150	20	3/8 x 31/32	.857	.476	.357	.298
1190	1500	20	7/8 x 1 21/32	1.937	1.076	.807	.673
1194	2300	20	1 x 1 21/32	2.693	1.496	1.122	.935
1200	1	25	1/4 x 17/32	.734	.408	.306	.255
1201	2	25	1/4 x 17/32	.734	.408	.306	.255
1201.1	3	25	1/4 x 17/32	.734	.408	.306	.255
1202	4	25	1/4 x 17/32	.734	.408	.306	.255
1203	5	25	1/4 x 17/32	.734	.408	.306	.255
1203.1	6	25	1/4 x 17/32	.734	.408	.306	.255
1203.3	8	25	1/4 x 17/32	.734	.408	.306	.255
1204	10	25	1/4 x 23/32	.767	.426	.32	.266
1204.2	15	25	1/4 x 23/32	.767	.426	.32	.266
1204.5	20	25	5/16 x 23/32	.792	.44	.33	.275
1205	25	25	5/16 x 23/32	.792	.44	.33	.275
1205.1	30	25	5/16 x 23/32	.792	.44	.33	.275
1205.2	35	25	5/16 x 23/32	.792	.44	.33	.275
1205.7	40	25	5/16 x 27/32	.828	.46	.345	.288
1206	50	25	5/16 x 27/32	.828	.46	.345	.288
1206.1	75	25	3/8 x 27/32	.839	.466	.35	.291
1207	100	25	3/8 x 31/32	.857	.476	.357	.298
1207.5	150	25	3/8 x 1 9/32	.918	.51	.383	.319
1207.7	200	25	3/8 x 1 17/32	.95	.528	.396	.33
1208	250	25	7/16 x 1 9/32	1.08	.60	.45	.375
1208.5	300	25	7/16 x 1 17/32	1.138	.632	.474	.395
1208.6	350	25	7/16 x 1 17/32	1.138	.632	.474	.395
1208.7	400	25	1/2 x 1 5/16	1.138	.632	.474	.395
1208.8	450	25	1/2 x 1 9/16	1.534	.852	.639	.533
1209	500	25	1/2 x 1 9/16	1.534	.852	.639	.533
1209.2	600	25	1/2 x 1 13/16	1.616	.898	.674	.561
1209.4	800	25	3/4 x 1 21/32	1.613	.896	.672	.56
1211	1000	25	13/16 x 1 21/32	1.667	.926	.695	.579
1212	1500	25	7/8 x 1 29/32	1.937	1.076	.807	.673
1213	2000	25	1 x 1 29/32	2.693	1.496	1.122	.935

*1-99, Kleer-Pak; 100 Up Bulk-Pack. 500 Up Bulk-Pack prices on request. *Mounting strap attached.

TYPE TVA ATOM® ELECTROLYTICS CONTINUED ON NEXT PAGE

TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of 1-49	50-99	100-249	250-499*
1213.5	2500	25	1 x 1 29/32	$2.693	$1.496	$1.122	$0.935
1214†	3000	25	1 x 2 5/32	2.693	1.496	1.122	.935
1214.2	4000	25	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1214.5	5000	25	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1214.8	8000	25	1 1/4 x 3 1/16	4.309	2.394	1.796	1.496
1214.10	10000	25	1 3/8 x 3 1/16	4.464	2.48	1.86	1.55
1222†	900	30	7/8 x 1 21/32	2.099	1.166	.875	.729
1222.1	1000	30	15/16 x 1 29/32	2.099	1.166	.875	.729
1223	200	35	7/16 x 1 17/32	1.138	.632	.474	.395
1225	300	35	1/2 x 1 9/16	1.534	.852	.639	.533
1227	500	35	1/2 x 1 13/16	1.616	.898	.674	.561
1229	5500	35	1 x 3 13/32	4.464	2.48	1.86	1.55
1300	1	50	1/4 x 1 7/32	.734	.408	.306	.255
1301	2	50	1/4 x 1 7/32	.734	.408	.306	.255
1302	3	50	1/4 x 1 7/32	.734	.408	.306	.255
1302.7	4	50	1/4 x 1 7/32	.734	.408	.306	.255
1303	5	50	1/4 x 2 3/32	.767	.426	.32	.266
1303.1	6	50	1/4 x 2 3/32	.767	.426	.32	.266
1303.2	8	50	1/4 x 2 3/32	.767	.426	.32	.266
1304	10	50	5/16 x 2 3/32	.792	.44	.33	.275
1305	15	50	5/16 x 2 3/32	.792	.44	.33	.275
1305.5	20	50	5/16 x 2 7/32	.828	.46	.345	.288
1306	25	50	5/16 x 2 7/32	.828	.46	.345	.288
1306.2	35	50	3/8 x 2 7/32	.839	.466	.35	.291
1306.5	40	50	3/8 x 3 1/32	.857	.476	.357	.298
1308	50	50	3/8 x 3 1/32	.857	.476	.357	.298
1309.3	60	50	3/8 x 1 9/32	.918	.51	.383	.319
1309.4	75	50	3/8 x 1 9/32	.918	.51	.383	.319
1310	100	50	3/8 x 1 17/32	.95	.528	.396	.33
1310.1	120	50	7/16 x 1 9/32	1.08	.60	.45	.375
1310.2	125	50	7/16 x 1 17/32	1.138	.632	.474	.395
1311	150	50	7/16 x 1 17/32	1.138	.632	.474	.395
1311.5	200	50	1/2 x 1 5/16	1.138	.632	.474	.393
1312	250	50	1/2 x 1 5/16	1.138	.632	.474	.393
1312.1	300	50	1/2 x 1 9/16	1.534	.852	.639	.533
1312.2	350	50	1/2 x 1 13/16	1.616	.898	.674	.561
1313	400	50	1/2 x 1 13/16	1.616	.898	.674	.561
1315	500	50	3/4 x 1 21/32	1.613	.896	.672	.56
1315.2	600	50	13/16 x 1 21/32	1.667	.926	.695	.579
1315.4	800	50	7/8 x 1 21/32	1.768	.982	.737	.614
1316	1000	50	15/16 x 1 29/32	2.099	1.166	.875	.729
1318	1500	50	15/16 x 2 5/32	2.531	1.406	1.055	.879
1318.2	2000	50	1 1/8 x 2 5/32	2.819	1.566	1.175	.979
1318.3	2500	50	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1318.4	3000	50	1 1/4 x 2 11/16	2.988	1.66	1.245	.913
1318.5	4000	50	1 1/4 x 3 5/32	3.82	2.122	1.592	1.326
1318.7	5000	50	1 3/8 x 3 1/8	4.464	2.48	1.86	1.55
1318.10	8000	50	1 3/8 x 4 5/32	5.393	2.996	2.247	1.873
1319	250	60	1/2 x 1 9/16	1.688	.938	.704	.586
1319.5	500	75	1 x 2 21/32	2.819	1.566	1.175	.979
1319.7	1000	75	1 x 2 21/32	2.988	1.66	1.245	1.038
1319.8†	1500	75	1 x 3 21/32	4.306	2.392	1.794	1.495
1319.9	2000	75	1 3/8 x 2 3/8	5.393	2.996	2.247	1.873
1320	10	90	3/8 x 2 7/32	.922	.512	.384	.32
1321	16	90	3/8 x 3 1/32	.94	.522	.392	.326
1330	1	100	1/4 x 1 7/32	.806	.488	.336	.28
1331	2	100	1/4 x 2 3/32	.842	.468	.351	.293
1332	3	100	5/16 x 2 3/32	.875	.486	.365	.304
1333	4	100	5/16 x 2 3/32	.875	.486	.365	.304
1334	5	100	5/16 x 2 7/32	.911	.506	.38	.316
1335	6	100	5/16 x 2 7/32	.911	.506	.38	.316
1336	8	100	3/8 x 2 7/32	.922	.512	.384	.32
1337	10	100	3/8 x 2 7/32	.922	.512	.384	.32
1338	15	100	3/8 x 3 1/32	.94	.522	.393	.326
1339	20	100	3/8 x 1 9/32	1.008	.56	.42	.35
1340	25	100	3/8 x 1 17/32	1.044	.58	.435	.363
1341	30	100	3/8 x 1 17/32	1.044	.58	.435	.363
1342	40	100	7/16 x 1 17/32	1.253	.696	.522	.435
1343	50	100	1/2 x 1 9/16	1.688	.938	.704	.586
1344	60	100	1/2 x 1 9/16	1.688	.938	.704	.586
1345	75	100	1/2 x 1 13/16	1.778	.988	.741	.618
1345.2	85	100	3/4 x 1 13/32	1.559	.866	.65	.541
1346	100	100	3/4 x 1 13/32	1.559	.866	.65	.541
1347	150	100	13/16 x 1 21/32	1.667	.926	.695	.579
1348	200	100	7/8 x 1 29/32	1.937	1.076	.807	.673
1349	250	100	7/8 x 1 29/32	1.937	1.076	.807	.673
1350	300	100	1 x 1 29/32	2.693	1.496	1.122	.935
1375	400	100	1 x 2 5/32	2.693	1.496	1.122	.935
1376	500	100	1 1/8 x 2 5/32	2.819	1.566	1.175	.979
1377	600	100	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1379	800	100	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1380	1000	100	1 1/4 x 2 11/16	2.988	1.66	1.245	1.038
1382	1500	100	1 1/4 x 3 11/16	4.306	2.392	1.794	1.495
1384	2000	100	1 3/8 x 4 5/32	5.393	2.996	2.247	1.873
1400	1	150	1/4 x 1 7/32	.806	.448	.336	.28
1400.1	2	150	1/4 x 2 3/32	.842	.468	.351	.293
1400.2	3	150	5/16 x 2 3/32	.875	.486	.365	.304
1402	4	150	5/16 x 2 7/32	.911	.506	.38	.316
1403	5	150	5/16 x 2 7/32	.911	.506	.38	.316
1403.1	6	150	3/8 x 2 7/32	.922	.512	.384	.32
1403.2	7	150	3/8 x 2 7/32	.922	.512	.384	.32
1405	8	150	3/8 x 2 7/32	.922	.512	.383	.32
1406	10	150	3/8 x 3 1/32	.94	.522	.392	.326
1407	12	150	3/8 x 1 9/32	1.008	.56	.42	.35
1408	15	150	3/8 x 1 9/32	1.008	.56	.42	.35
1409	16	150	3/8 x 1 17/32	1.044	.58	.435	.363
1410	20	150	3/8 x 1 17/32	1.044	.58	.435	.363
1411	25	150	7/16 x 1 9/32	1.188	.66	.495	.413
1412	30	150	7/16 x 1 17/32	1.253	.696	.522	.435
1412.1	35	150	1/2 x 1 17/32	1.688	.938	.704	.586
1413	40	150	1/2 x 1 17/32	1.688	.938	.704	.586

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of 1-49	50-99	100-249	250-499*
1414	50	150	1/2 x 1 13/16	$1.778	$0.988	$0.741	$0.618
1415	60	150	13/16 x 1 13/32	1.778	.988	.741	.618
1416	75	150	7/8 x 1 13/32	1.868	1.038	.779	.649
1418	80	150	7/8 x 1 13/32	1.962	1.09	.818	.681
1418.1	85	150	7/8 x 1 21/32	1.962	1.09	.818	.681
1420	100	150	7/8 x 1 21/32	1.962	1.09	.818	.681
1422	150	150	7/8 x 2 5/32	2.099	1.166	.875	.729
1422.5	160	150	1 x 1 29/32	2.099	1.166	.875	.729
1423	200	150	1 x 2 5/32	2.693	1.496	1.122	.935
1424*	250	150	1 1/8 x 2 5/32	2.819	1.566	1.175	.979
1425	300	150	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1426	350	150	1 x 3 5/32	2.988	1.66	1.245	1.038
1426.1	400	150	1 1/4 x 2 11/16	2.988	1.66	1.245	1.038
1428	500	150	1 1/4 x 3 5/32	3.82	2.122	1.592	1.326
1429	1000	150	1 3/8 x 4 5/32	5.393	2.996	2.247	1.873
1430	80	175	13/16 x 1 29/32	1.937	1.076	.807	.673
1434	1	200	1/4 x 2 3/32	.842	.468	.351	.293
1435	2	200	5/16 x 2 3/32	.875	.486	.365	.304
1436	3	200	5/16 x 2 7/32	.911	.506	.38	.316
1437	4	200	3/8 x 2 7/32	.922	.512	.384	.32
1438	5	200	3/8 x 2 7/32	.922	.512	.384	.32
1439	6	200	3/8 x 3 1/32	.94	.522	.392	.326
1440	8	200	3/8 x 1 9/32	1.008	.56	.42	.35
1441	10	200	3/8 x 1 9/32	1.008	.56	.42	.35
1442	15	200	7/16 x 1 9/32	1.188	.66	.495	.413
1442.1	20	200	7/16 x 1 17/32	1.253	.696	.522	.435
1442.2	25	200	1/2 x 1 9/16	1.688	.938	.704	.586
1442.3	30	200	1/2 x 1 13/16	1.778	.988	.741	.618
1442.5	40	200	13/16 x 1 13/32	1.778	.988	.741	.618
1443	50	200	13/16 x 1 21/32	1.832	1.018	.764	.636
1443.1	60	200	7/8 x 1 21/32	1.886	1.048	.786	.655
1444	75	200	13/16 x 2 5/32	1.937	1.076	.807	.673
1444.2	85	200	7/8 x 1 29/32	1.937	1.076	.807	.673
1445	100	200	7/8 x 2 5/32	2.099	1.166	.875	.729
1446	120	200	1 x 1 29/32	2.934	1.63	1.223	1.019
1447*	150	200	1 x 2 5/32	2.808	1.56	1.17	.975
1480*	200	200	1 1/8 x 2 11/16	2.934	1.63	1.223	1.019
1484	500	200	1 1/4 x 3 11/16	4.306	2.392	1.794	1.495
1500	1	250	5/16 x 2 3/32	.875	.486	.365	.304
1500.1	2	250	3/8 x 2 3/32	.911	.506	.38	.316
1500.2	3	250	3/8 x 2 7/32	.922	.512	.384	.32
1501	4	250	3/8 x 3 1/32	.94	.522	.392	.326
1502	5	250	3/8 x 1 9/32	1.008	.56	.42	.35
1502.1	6	250	3/8 x 1 9/32	1.008	.56	.42	.35
1503	8	250	3/8 x 1 9/32	1.044	.58	.435	.363
1504	10	250	7/16 x 1 9/32	1.188	.66	.495	.413
1505	12	250	7/16 x 1 17/32	1.253	.696	.522	.435
1506	15	250	1/2 x 1 9/16	1.688	.938	.704	.586
1507	16	250	1/2 x 1 9/16	1.688	.938	.704	.586
1508	20	250	1/2 x 1 13/16	1.778	.988	.741	.618
1509	25	250	3/4 x 1 13/32	1.778	.988	.741	.618
1510	30	250	13/16 x 1 13/32	1.778	.988	.741	.618
1511	40	250	7/8 x 1 13/32	1.868	1.038	.779	.649
1512	50	250	7/8 x 1 21/32	1.868	1.038	.779	.649
1513	60	250	7/8 x 1 29/32	1.937	1.076	.807	.673
1515	70	250	7/8 x 1 29/32	1.973	1.096	.822	.685
1520	75	250	7/8 x 2 5/32	1.973	1.096	.822	.685
1521	85	250	7/8 x 2 5/32	1.973	1.096	.822	.685
1522	100	250	1 x 1 29/32	2.693	1.496	1.122	.935
1524	125	250	7/8 x 2 5/8	2.819	1.566	1.175	.979
1525	150	250	1 1/8 x 2 5/32	2.819	1.566	1.175	.979
1526	160	250	1 x 2 5/32	2.819	1.566	1.175	.979
1528†	200	250	1 1/4 x 2 11/16	2.988	1.66	1.245	1.038
1528.2	225	250	1 x 3 5/32	2.988	1.66	1.245	1.038
1528.3	250	250	1 x 3 5/32	2.988	1.66	1.245	1.038
1528.5	300	250	1 1/4 x 3 5/32	3.82	2.122	1.592	1.326
1528.7	400	250	1 1/4 x 3 11/16	4.306	2.392	1.794	1.495
1528.8	450	250	1 3/8 x 3 11/16	4.464	2.48	1.86	1.55
1528.9	500	250	1 3/8 x 3 11/16	4.464	2.48	1.86	1.55
1529	600	250	1 3/8 x 4 5/32	5.393	2.996	2.247	1.873
1530	6	275	3/8 x 1 17/32	1.044	.58	.435	.363
1540	1	300	5/16 x 2 3/32	.875	.486	.365	.304
1541	2	300	3/8 x 2 7/32	.922	.512	.384	.32
1542	3	300	3/8 x 3 1/32	.94	.522	.392	.326
1543	4	300	3/8 x 1 9/32	1.008	.56	.42	.35
1544	5	300	3/8 x 1 9/32	1.008	.56	.42	.35
1545	6	300	3/8 x 1 17/32	1.044	.58	.435	.363
1546	8	300	7/16 x 1 17/32	1.253	.696	.522	.435
1547	10	300	7/16 x 1 17/32	1.253	.696	.522	.435
1548	12	300	1/2 x 1 9/16	1.688	.938	.704	.586
1549	15	300	1/2 x 1 9/16	1.688	.938	.704	.586
1550	20	300	1/2 x 1 13/16	1.778	.988	.741	.618
1551	25	300	3/4 x 1 21/32	1.778	.988	.741	.618
1552	30	300	3/4 x 1 29/32	1.832	1.018	.764	.636
1553	40	300	13/16 x 1 29/32	1.883	1.046	.785	.654
1570	50	300	7/8 x 1 29/32	1.937	1.076	.807	.673
1570.1	60	300	7/8 x 2 5/32	1.973	1.096	.822	.685
1571	75	300	1 x 2 5/32	2.693	1.496	1.122	.935
1571.2	85	300	1 x 2 13/32	2.808	1.56	1.17	.975
1573	100	300	1 1/8 x 2 5/32	2.819	1.566	1.175	.979
1575*†	140	300	1 x 3 5/32	2.988	1.66	1.245	1.038
1576†	150	300	1 1/4 x 2 11/16	2.988	1.66	1.245	1.038
1578†	200	300	1 1/4 x 3 5/32	3.82	2.122	1.592	1.326
1580	300	300	1 3/8 x 3 11/16	4.464	2.48	1.86	1.55
1582	400	300	1 3/8 x 4 5/32	5.393	2.996	2.247	1.873
1599	1	350	5/16 x 2 7/32	.911	.506	.38	.316
1600	2	350	3/8 x 2 7/32	.922	.512	.384	.32
1600.1	3	350	3/8 x 3 1/32	.94	.522	.392	.326
1601	4	350	3/8 x 1 9/32	1.088	.56	.42	.35
1602.5	5	350	3/8 x 1 17/32	1.044	.58	.435	.363
1602.6	6	350	3/8 x 1 17/32	1.044	.58	.435	.363

*1-99, Kleer-Pak; 100 Up Bulk-Pack. 500 Up Bulk-Pack prices on request. *Mounting strap attached. †Single ended with two 8-inch flexible leads.

SPRAGUE Orange Drop® Capacitors

TYPE PS ORANGE DROP DIFILM® DIPPED TUBULAR CAPACITORS

- Double dipped in bright orange epoxy resin—beats heat and humidity.
- Outside foil on all units identified by black striping.
- Dual dielectric (polyester film–paper) solidly impregnated with exclusive HCX®—produces rock-hard capacitor section.
- Crimped wire leads for correct spacing when mounted on printed wiring boards.

200 VDC

Sprague No. 2PS-	µF	Net Each, Lots of 1-24	25-49	50 Up	100-249*
S20	.02	$0.27	$0.176	$0.138	$0.110
S22	.022	.27	.176	.138	.110
S47	.047	.27	.176	.138	.110
S50	.05	.27	.176	.138	.110
P10	.1	.30	.223	.174	.139
P15	.15	.42	.288	.224	.179
P20	.2	.51	.356	.276	.221
P22	.22	.51	.356	.276	.221
P25	.25	.69	.495	.385	.308
P33	.33	.69	.495	.385	.308
P47	.47	.90	.663	.515	.413
P50	.5	.90	.663	.515	.413

400 VDC

Sprague No. 4PS-	µF	Net Each, Lots of 1-24	25-49	50 Up	100-249*
S10	.01	$0.24	$0.155	$0.12	$0.096
S15	.015	.27	.176	.138	.11
S20	.02	.27	.191	.149	.119
S22	.022	.27	.191	.149	.119
S25	.025	.30	.201	.156	.125
S30	.03	.30	.201	.156	.125
S33	.033	.30	.201	.156	.125
S40	.04	.30	.201	.156	.125
S47	.047	.30	.201	.156	.125
S50	.05	.30	.201	.156	.125
S56	.056	.30	.223	.174	.139
S68	.068	.30	.223	.174	.139
S75	.075	.42	.288	.224	.179
P10	.1	.42	.288	.224	.179
P15	.15	.51	.356	.276	.221
P20	.2	.69	.495	.385	.308
P22	.22	.69	.495	.385	.308
P25	.25	.90	.663	.515	.413

600 VDC

Sprague No. 6PS-	µF	Net Each, Lots of 1-24	25-49	50 Up	100-249*
D10	.001	$0.24	$0.145	$0.113	$0.09
D12	.0012	.24	.145	.113	.09
D15	.0015	.24	.145	.113	.09
D18	.0018	.24	.145	.113	.09
D20	.002	.24	.145	.113	.09
D22	.0022	.24	.145	.113	.09
D25	.0025	.24	.145	.113	.09
D27	.0027	.24	.145	.113	.09
D30	.003	.24	.145	.113	.09
D33	.0033	.24	.145	.113	.09
D39	.0039	.24	.145	.113	.09
D40	.004	.24	.145	.113	.09
D47	.0047	.24	.145	.113	.09
D50	.005	.24	.145	.113	.09
D56	.0056	.24	.145	.113	.09
D60	.006	.24	.145	.113	.09
D68	.0068	.24	.145	.113	.09
D75	.0075	.24	.145	.113	.09
D80	.008	.24	.145	.113	.09
D82	.0082	.24	.145	.113	.09
S10	.01	.24	.155	.12	.096
S12	.012	.27	.176	.138	.110
S15	.015	.27	.176	.138	.110
S20	.02	.27	.191	.149	.119
S22	.022	.27	.191	.149	.119
S25	.025	.30	.201	.156	.125
S27	.027	.30	.201	.156	.125
S30	.03	.30	.201	.156	.125
S33	.033	.30	.201	.156	.125
S35	.035	.30	.201	.156	.125
S39	.039	.30	.223	.174	.139
S40	.04	.30	.223	.174	.139
S47	.047	.30	.223	.174	.139
S50	.05	.30	.223	.174	.139
S56	.056	.36	.248	.193	.154
S60	.06	.36	.248	.193	.154
S68	.068	.36	.248	.193	.154
S75	.075	.36	.248	.193	.154
S82	.082	.42	.288	.224	.179
P10	.1	.42	.288	.224	.179
P15	.15	.60	.436	.339	.271
P20	.2	.90	.663	.515	.413
P22	.22	.90	.663	.515	.413
P25	.25	1.11	.805	.626	.500
P33	.33	1.11	.805	.626	.500
P47	.47	1.32	.959	.746	.596

1000 VDC

Sprague No. 10PS-	µF	Net Each, Lots of 1-24	25-49	50 Up	100-249*
D10	.001	$0.30	$0.178	$0.138	$0.111
D15	.0015	.30	.178	.138	.111
D20	.002	.30	.178	.138	.111
D22	.0022	.30	.178	.138	.111
D30	.003	.30	.182	.142	.113
D33	.0033	.30	.182	.142	.113

1000 VDC (CONT'D)

Sprague No. 10PS-	µF	Net Each, Lots of 1-24	25-49	50 Up	100-249*
D40	.004	$0.33	$0.198	$0.154	$0.123
D47	.0047	.33	.198	.154	.123
D50	.005	.33	.198	.154	.123
D68	.0068	.36	.216	.168	.134
S10	.01	.39	.23	.179	.143
S15	.015	.42	.248	.193	.154
S22	.022	.48	.286	.222	.178
S33	.033	.54	.329	.256	.204
S39	.039	.57	.349	.271	.217
S47	.047	.57	.349	.271	.217
S56	.056	.66	.396	.308	.246
S68	.068	.66	.396	.308	.246
S82	.082	.87	.529	.411	.329
P10	.1	.87	.529	.411	.329

1600 VDC

Sprague No. 16PS-	µF	Net Each, Lots of 1-24	25-49	50 Up	100-249*
D10	.001	$0.33	$0.198	$0.154	$0.123
D15	.0015	.36	.216	.168	.134
D20	.002	.42	.248	.193	.154
D22	.0022	.42	.248	.193	.154
D30	.003	.48	.286	.222	.178
D33	.0033	.48	.286	.222	.178
D39	.0039	.48	.286	.222	.178
D40	.004	.48	.286	.222	.178
D47	.0047	.48	.286	.222	.178
D50	.005	.48	.286	.222	.178
D60	.006	.48	.286	.222	.178
D68	.0068	.48	.286	.222	.178
D70	.007	.48	.286	.222	.178
D75	.0075	.48	.286	.222	.178
D80	.008	.54	.329	.256	.204
S10	.01	.54	.329	.256	.204
S15	.015	.66	.396	.308	.246
S18	.018	.87	.529	.411	.329
S20	.02	.87	.529	.411	.329
S22	.022	.87	.529	.411	.329
S30	.03	1.05	.644	.501	.400
S33	.033	1.05	.644	.501	.400
S40	.04	1.23	.767	.597	.477
S47	.047	1.23	.767	.597	.477
S50	.05	1.23	.767	.597	.477

2000 VDC

20PS-					
D10	.001	$0.3(	$0.216	$0.16	$0.134
D15	.0015	.42	.24	.19	.154
D22	.0022	.48	.28(	.22	.178
D33	.0033	.54	.32	.25	.204
D47	.0047	.5(	.329	.25	.204
D56	.0056	.5(	.329	.25	.204
D68	.0068	.5(	.32	.25	.204
D82	.0082	.6(	.39	.30	.246
S27	.027	1.2			.477

*100–249, bulk-pack; other quantities, Kleer-Pak. 250 Up bulk-pack available on request.

TYPE 225P FILMITE® "E" ORANGE DROP RECTANGULARS

Designed for PC board use with radial leads. Similar in appearance to PS Series, above. Used in TV sets, radios and commercial equipment. Sections are wound from polyester film and thin gauge foil; wax-free conformal epoxy coating protects against moisture. For operation up to 85° C, 75 and 100 VDC. Tolerance, ±10%.

75 VDC‡

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
1249R75*	.12	$0.27	$0.198	$0.154	$0.123
1549R75*	.15	.27	.198	.154	.123
1849R75*	.18	.33	.23	.179	.143
2249R75*	.22	.33	.23	.179	.143
2749R75*	.27	.39	.287	.223	.179
3349R75*	.33	.39	.287	.223	.179
3949R75*	.39	.54	.396	.308	.246
4749R75*	.47	.54	.396	.308	.246

‡Available until the present stock is exhausted.

100 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
10291WD3	.001	$0.27	$0.153	$0.119	$0.095
12291WD3	.0012	.27	.153	.119	.095
15291WD3	.0015	.27	.153	.119	.095
18291WD3	.0018	.27	.153	.119	.095
22291WD3	.0022	.27	.153	.119	.095
27291WD3	.0027	.27	.153	.119	.095
33291WD3	.0033	.27	.153	.119	.095
39291WD3	.0039	.27	.153	.119	.095
47291WD3	.0047	.27	.153	.119	.095
56291WD3	.0056	.27	.153	.119	.095
68291WD3	.0068	.27	.153	.119	.095
82291WD3	.0082	.27	.153	.119	.095
10391WD3	.01	.27	.153	.119	.095
12391WD3	.012	.27	.153	.119	.095
15391WD3	.015	.27	.153	.119	.095
18391WD3	.018	.27	.153	.119	.095

100 VDC (CONT'D)

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
22391WD3	.022	$0.27	$0.153	$0.119	$0.095
27391WD3	.027	.27	.153	.119	.095
33391WD3	.033	.27	.153	.119	.095
39391WD3	.039	.30	.171	.133	.106
47391WD3	.047	.30	.171	.133	.106
56391WD3	.056	.30	.178	.138	.111
68391WD3	.068	.30	.178	.138	.111
82391WD3	.082	.30	.182	.142	.113
10491WD3	.1	.30	.182	.142	.113
12491XD3	.12	.42	.248	.193	.154
15491XD3	.15	.42	.248	.193	.154
18491XD3	.18	.48	.288	.224	.179
22491XD3	.22	.48	.288	.224	.179
27491XD3	.27	.57	.349	.271	.217
33491XD3	.33	.57	.349	.271	.217
39491XD3	.39	.90	.558	.434	.347
47491XD3	.47	.90	.558	.434	.347
56491YD3	.56	1.02	.632	.492	.393
68491YD3	.68	1.02	.632	.492	.393
82491YD3	.82	1.26	.785	.611	.489
10591YD3	1.0	1.26	.785	.611	.489

200 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
10292XD3	.001	$0.30	$0.178	$0.138	$0.111
15292XD3	.0015	.30	.178	.138	.111
22292XD3	.0022	.30	.178	.138	.111
33292XD3	.0033	.30	.178	.138	.111
47292XD3	.0047	.30	.178	.183	.111
68292XD3	.0068	.30	.178	.138	.111

200 VDC (CONT'D)

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
10392XD3	.01	$0.30	$0.178	$0.138	$0.111
15392XD3	.015	.33	.198	.154	.123
22392XD3	.022	.33	.198	.154	.123
33392XD3	.033	.39	.230	.179	.143
47392XD3	.047	.39	.230	.179	.143
68392XD3	.068	.39	.230	.179	.143
10492XD3	.1	.39	.230	.179	.143
15492XD3	.15	.42	.248	.193	.154
22492XD3	.22	.48	.288	.224	.179
33492YD3	.33	.57	.349	.271	.217
47492YD3	.47	.90	.558	.434	.347
68492YD3	.68	1.26	.785	.611	.489

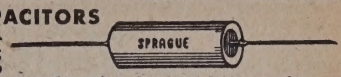
400 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
10294XD3	.001	$0.30	$0.178	$0.138	$0.111
15294XD3	.0015	.30	.178	.138	.111
22294XD3	.0022	.30	.178	.138	.111
33294XD3	.0033	.30	.178	.138	.111
47294XD3	.0047	.30	.178	.138	.111
68294XD3	.0068	.30	.178	.138	.111
10394XD3	.01	.30	.178	.138	.111
15394XD3	.015	.33	.198	.154	.123
22394XD3	.022	.33	.198	.154	.123
33394XD3	.033	.39	.230	.179	.143
47394XD3	.047	.39	.230	.179	.143
68394XD3	.068	.42	.248	.193	.154
10494XD3	.1	.48	.288	.224	.179
15494YD3	.15	.57	.349	.271	.217
22494YD3	.22	.90	.558	.434	.347
33494YD3	.33	1.26	.785	.611	.489
47494YD3	.47	2.46	1.523	1.185	.948

*When ordering, include final suffix **XD3** (e.g., 225P1249R75**XD3**). *1–24, 25 Up supplied in Kleer-Pak; all others, bulk-pack. Write for 250 Up bulk-pack prices

SPRAGUE Tantalum Capacitors

TYPE 150D SOLID ELECTROLYTE TANTALEX® CAPACITORS



True miniaturization with characteristics previously unobtainable in electrolytics. Solid electrolyte cannot leak or corrode; hermetically sealed. **Temperature Range:** 85° C without derating; to 125° C with derating. **Ordering Information:** Select capacitance and read across chart to voltage desired. Suffix on number (A, B, R or S) refers to size; find this key and your capacitance in the price chart, at bottom of page.

TYPE 150D ±10% TOLERANCE CAPACITANCE VALUES AVAILABLE

Cap., µF	Sprague Prefix†	Suffix for WVDC of: 6	10	15	20	35	50	60	75	100	125
.0047	150D472X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.0056	150D562X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.0068	150D682X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.0082	150D822X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.01	150D103X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.012	150D123X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.015	150D153X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.018	150D183X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.022	150D223X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.027	150D273X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.033	150D333X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.039	150D393X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.047	150D473X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.056	150D563X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.068	150D683X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.082	150D823X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.1	150D104X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.12	150D124X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.15	150D154X	.....	.....	.....	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.18	150D184X	.....	.....	.....	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.22	150D224X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.27	150D274X	9006A	9010A	9015A	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.33	150D334X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.39	150D394X	9006A	9010A	9015A	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.47	150D474X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.56	150D564X	9006A	9010A	9015A	9020A	9035A	9050A	9060A	9075A	9100A	9100B
.68	150D684X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100B*	9100B*
.82	150D824X	9006A	9010A	9015A	9020A	9035A	9050A	9060B	9075B	9100B	9100B
1.0	150D105X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060B*	9075B*	9100B*	9100B*
1.2	150D125X	9006A	9010A	9015A	9020A	9035B	9050B	9060B	9075B	9100B	9100B
1.5	150D155X	9006A*	9010A*	9015A*	9020A*	9035B*	9050B*	9060B*	9075B*	9100B*	9100B*
1.8	150D185X	9006A	9010A	9015A	9020A	9035B	9050B	9060B	9075B	9100B	9100B
2.2	150D225X	9006A*	9010A*	9015A*	9020A*	9035B*	9050B*	9060B*	9075B*	9100B*	9100B*
2.7	150D275X	9006A	9010A	9015A	9020B	9035B	9050B	9060B	9075B	9100B	.....
3.3	150D335X	9006A*	9010A*	9015A*	9020B*	9035B*	9050B*	9060B*	9075B*	9100R*	.....
3.9	150D395X	9006A	9010A	9015B	9020B	9035B	9050B	9060B	9075B	9100R	.....
4.7	150D475X	9006A*	9010A*	9015B*	9020B*	9035B*	9050B*	9060R*	9075R*	9100R*	.....
5.6	150D565X	9006A	9010B	9015B	9020B	9035B	9050R	9060R	9075R	9100R	.....
6.8	150D685X	9006A*	9010B*	9015B*	9020B*	9035B*	9050R*	9060R*	9075R*	9100R*	.....
8.2	150D825X	9006B	9010B	9015B	9020B	9035R	9050R	9060R	9075R	.....	.....
10	150D106X	9006B*	9010B*	9015B*	9020B*	9035R*	9050R*	9060R*	9075R*	.....	.....
12	150D126X	9006B	9010B	9015B	9020B	9035R	9050R	9060S	9075S	.....	.....
15	150D156X	9006B*	9010B*	9015B*	9020B*	9035R*	9050R*	9060S*	9075S*	.....	.....
18	150D186X	9006B	9010B	9015B	9020R	9035R	9050R	9060S	.....	.....	.....
22	150D226X	9006B*	9010B*	9015B*	9020R*	9035R*	9050S*	9060S*	.....	.....	.....
27	150D276X	9006B	9010B	9015R	9020R	9035S	.....	.....	.....	.....	.....
33	150D336X	9006B*	9010B*	9015R*	9020R*	9035S*	.....	.....	.....	.....	.....
39	150D396X	9006B	9010B	9015R	9020R	9035S	.....	.....	.....	.....	.....
40	150D406X	.....	9010B*	.....	.....	.....	.....	.....	.....	.....	.....
47	150D476X	9006B*	9010R*	9015R*	9020R*	9035S*	.....	.....	.....	.....	.....
56	150D566X	9006B	9010R	9015R	9020S	.....	.....	.....	.....	.....	.....
60	150D606X	9006B*	.....	.....	.....	.....	.....	.....	.....	.....	.....
68	150D686X	9006R*	9010R*	9015R*	9020S*	.....	.....	.....	.....	.....	.....
82	150D826X	9006R	9010R	9015S	9020S	.....	.....	.....	.....	.....	.....
100	150D107X	9006R*	9010R*	9015S*	9020S*	.....	.....	.....	.....	.....	.....
120	150D127X	9006R*	9010R*	9015S	.....	.....	.....	.....	.....	.....	.....
150	150D157X	9006R*	9010S*	9015S*	.....	.....	.....	.....	.....	.....	.....
180	150D187X	9006R*	9010S	.....	.....	.....	.....	.....	.....	.....	.....
220	150D227X	9006S*	9010S*	.....	.....	.....	.....	.....	.....	.....	.....
270	150D277X	9006S*	.....	.....	.....	.....	.....	.....	.....	.....	.....
330	150D337X	9006S*	.....	.....	.....	.....	.....	.....	.....	.....	.....

†PRICE CHART AND ORDERING INFORMATION FOR TYPE 150D CAPACITORS

When ordering, show full number (as above for ±10% tol.) for value desired (e.g., 150D224X**9006A**). Items noted (*) available in ±20% tol.; to order, change first digit in suffix to **0** (e.g., 150D224X**0**006A). For ±5% tol., for 6 to 50 volts double ±20% tol. unit prices, for 60 to 125 volts triple ±20% tol. unit prices; to order, change first digit in suffix to **5** (e.g., 150D224X**5**006A). For bare metal case (size as listed below), add final digit **0** (150D224X9006A**0**). For plastic film sleeve (add .010″ dia. x .036″ lg. for all units), use final digit **2** (150D224X9006A**2**) and add **1c** to prices.

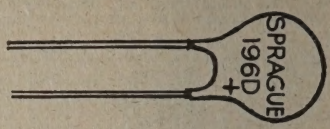
WV DC	Case Size	Size, In. Dia. x Lgth.	Cap. Range µF	±10% Tolerance (X9), Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	±20% Tolerance (X0), Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6, 10, 15 or 20	A	.125 x .250	.0047–.027†	$0.81	$0.57	$0.41	$0.33	$0.26	$0.80	$0.56	$0.40	$0.32	$0.25
			.033–6.8†	.81	.57	.41	.33	.26	.80	.56	.40	.32	.25
	B	.175 x .438	2.7–60†	.96	.68	.49	.39	.30	.95	.67	.48	.38	.29
	R	.279 x .650	18–180†	2.92	2.05	1.47	1.18	.92	2.90	2.03	1.45	1.16	.90
	S	.341 x .750	56–330†	5.38	3.78	2.71	2.17	1.69	5.35	3.75	2.68	2.14	1.66
35	A	.125 x .250	.0047–.027	.81	.57	.41	.33	.26	.80	.56	.40	.32	.25
			.033–1.0	.81	.57	.41	.33	.26	.80	.56	.40	.32	.25
	B	.175 x .438	1.2–6.8	.96	.68	.49	.39	.30	.95	.67	.48	.38	.29
	R	.279 x .650	8.2–22	2.92	2.05	1.47	1.18	.92	2.90	2.03	1.45	1.16	.90
	S	.341 x .750	27–47	5.38	3.78	2.71	2.17	1.69	5.35	3.75	2.68	2.14	1.66
50	A	.125 x .250	.0047–.027	.94	.66	.47	.38	.30	.93	.65	.46	.37	.29
			.033–1.0	.94	.66	.47	.38	.30	.93	.65	.46	.37	.29
	B	.175 x .438	1.2–4.7	1.11	.78	.56	.45	.35	1.10	.77	.55	.44	.34
	R	.279 x .650	5.6–10	3.32	2.33	1.67	1.34	1.04	3.30	2.31	1.65	1.32	1.02
			12–18	3.32	2.33	1.67	1.34	1.04	3.30	2.31	1.65	1.32	1.02
	S	.341 x .750	22	6.13	4.30	3.08	2.47	1.92	6.10	4.27	3.05	2.44	1.89
60 or 75	A	.125 x .250	.0047–.68	2.02	1.42	1.02	.82	.64	2.00	1.40	1.00	.80	.62
	B	.175 x .438	.82–3.9	2.37	1.67	1.20	.96	.75	2.35	1.65	1.18	.94	.73
	R	.279 x .650	4.7–10	5.34	3.75	2.69	2.16	1.68	5.30	3.71	2.65	2.12	1.64
	S	.341 x .750	12–22‡	9.76	6.85	4.91	3.94	3.07	9.70	6.79	4.85	3.88	3.01
100	A	.125 x .250	.0047–.56	3.64	2.56	1.84	1.48	1.16	3.60	2.52	1.80	1.44	1.12
	B	.175 x .438	.68–1.7	4.35	3.06	2.20	1.77	1.38	4.30	3.01	2.15	1.72	1.33
	R	.279 x .650	3.3–6.8	9.00	6.33	4.55	3.66	2.88	8.90	6.23	4.45	3.56	2.76
125	A	.125 x .250	.0047–.47	4.70	3.35	2.45	2.00	1.60	4.50	3.15	2.25	1.80	1.40
	B	.175 x .438	.56–2.2	5.05	3.60	2.63	2.14	1.70	4.85	3.40	2.43	1.94	1.50

†Min.-max. for all four voltages combined; see individual voltages in table, above, for specific values and range. ‡12 and 15 µF, for 75 WVDC.

SPRAGUE Tantalum Capacitors

TYPE 196D DIPPED TANTALEX® SOLID-TANTALUM CAPACITORS

Epoxy-dipped coating economically provides good electrical and mechanical protection. High stability, very little capacitance change; low dissipation factor permits higher ripples. Radial leads for mounting on PC boards. **Operating Temperature:** −55° C to +85° C. **Tolerance:** ±10%; ±20% available as noted. **Case Size and Leads:** Last three characters indicate case sizes and leads. Case Size: **H,** .175″ dia. x .375″ h.; **J,** .225″ dia. x .425″ h.; **K,** .225″ dia. x .450″ h.; **L,** .450″ dia. x .500″ h.; **M,** .600″ dia. x .800″ h.; **P,** .400″ dia. x .650″ h.; **T,** .400″ dia. x .750″ h. Numbers ending with **A1** have straight leads with .125″ spacing; **A3** indicates straight leads with .250″ spacing. Numbers ending with **E4** have "Hockeystick" leads with .250″ spacing. For short "Hockeystick" pin leads (.187″ l.; .250″ spacing) change A1 or E4 to **E3.** For short "Hairpin Crimped" leads (.187″ l.; .250″ spacing) change A3 to **B3.**



4 WVDC, 5.3 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D106X9004HA1*	10	$0.50	$0.32	$0.26	$0.23	$0.17
196D126X9004HA1	12	.50	.32	.26	.23	.17
196D476X9004JA1*	47	.58	.37	.30	.27	.20
196D566X9004JA1	56	.58	.37	.30	.27	.20
196D826X9004KA1	82	.66	.42	.34	.30	.22
196D107X9004KA1*	100	.66	.42	.34	.30	.22
196D187X9004LA3	180	1.30	.82	.66	.58	.41
196D187X9004PE4	180	1.30	.82	.66	.58	.41
196D227X9004LA3*	220	1.30	.82	.66	.58	.41
196D227X9004PE4*	220	1.30	.82	.66	.58	.41

6 WVDC, 8 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D685X9006HA1*	6.8	$0.50	$0.32	$0.26	$0.23	$0.17
196D825X9006HA1	8.2	.50	.32	.26	.23	.17
196D336X9006JA1*	33	.58	.37	.30	.27	.20
196D396X9006JA1	39	.58	.37	.30	.27	.20
196D476X9006KA1*	47	.66	.42	.34	.30	.22
196D566X9006KA1	56	.66	.42	.34	.30	.22
196D686X9006KA1*	68	.66	.42	.34	.30	.22
196D127X9006LA3	120	1.30	.82	.66	.58	.41
196D127X9006PE4	120	1.30	.82	.66	.58	.41
196D157X9006LA3*	150	1.30	.82	.66	.58	.41
196D157X9006PE4*	150	1.30	.82	.66	.58	.41
196D277X9006MA3	270	2.26	1.42	1.14	1.00	.70
196D277X9006TE4	270	2.26	1.42	1.14	1.00	.70
196D337X9006MA3*	330	2.26	1.42	1.14	1.00	.70
196D337X9006TE4*	330	2.26	1.42	1.14	1.00	.70

10 WVDC, 13 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D475X9010HA1*	4.7	$0.50	$0.32	$0.26	$0.23	$0.17
196D565X9010HA1	5.6	.50	.32	.26	.23	.17
196D226X9010JA1*	22	.58	.37	.30	.27	.20
196D276X9010JA1	27	.58	.37	.30	.27	.20
196D336X9010KA1*	33	.66	.42	.34	.30	.22
196D396X9010KA1	39	.66	.42	.34	.30	.22
196D826X9010LA3	82	1.30	.82	.66	58	.41
196D826X9010PE4	82	1.30	.82	.66	.58	.41
196D107X9010LA3*	100	1.30	.82	.66	.58	.41
196D107X9010PE4*	100	1.30	.82	.66	.58	.41
196D187X9010MA3	180	2.26	1.42	1.14	1.00	.70
196D187X9010TE4	180	2.26	1.42	1.14	1.00	.70
196D227X9010MA3*	220	2.26	1.42	1.14	1.00	.70
196D227X9010TE4*	220	2.26	1.42	1.14	1.00	.70

15 WVDC, 20 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D335X9015HA1*	3.3	$0.50	$0.32	$0.26	$0.23	$0.17
196D395X9015HA1	3.9	.50	.32	.26	.23	.17
196D156X9015JA1*	15	.58	.37	.30	.27	.20
196D186X9015JA1	18	.58	.37	.30	.27	.20
196D226X9015KA1*	22	.66	.42	.34	.30	.22
196D566X9015LA3	56	1.30	.82	.66	.58	.41
196D566X9015PE4	56	1.30	.82	.66	.58	.41
196D686X9015LA3*	68	1.30	.82	66	.58	.41
196D686X9015PE4*	68	1.30	.82	.66	.58	.41
196D127X9015MA3	120	2.26	1.42	1.14	1.00	.70
196D127X9015TE4	120	2.26	1.42	1.14	1.00	.70
196D157X9015MA3*	150	2.26	1.42	1.14	1.00	.70
196D157X9015TE4*	150	2.26	1.42	1.14	1.00	.70

20 WVDC, 26 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D275X9020HA1	2.7	$0.50	$0.32	$0.26	$0.23	$.17
196D106X9020JA1*	10	.58	.37	.30	.27	.20
196D126X9020JA1	12	.58	.37	.30	.27	.20
196D156X9020KA1*	15	.66	.42	.34	.30	.22
196D396X9020LA3	39	1.30	.82	.66	.58	.41
196D396X9020PE4	39	1.30	.82	.66	.58	.41
196D476X9020LA3*	47	1.30	.82	.66	.58	.41
196D476X9020PE4*	47	1.30	.82	.66	.58	.41
196D826X9020MA3	82	2.26	1.42	1.14	1.00	.70
196D826X9020TE4	82	2.26	1.42	1.14	1.00	.70
196D107X9020MA3*	100	2.26	1.42	1.14	1.00	.70
196D107X9020TE4*	100	2.26	1.42	1.14	1.00	.70

25 WVDC, 32 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D125X9025HA1	1.2	$0.50	$0.32	$0.26	$0.23	$0.17
196D155X9025HA1*	1.5	.50	.32	.26	.23	.17
196D185X9025HA1	1.8	.50	.32	.26	.23	.17
196D225X9025HA1*	2.2	.50	.32	.26	.23	.17
196D565X9025JA1	5.6	.58	.37	.30	.27	.20
196D685X9025JA1*	6.8	.58	.37	.30	.27	.20
196D825X9025JA1	8.2	.58	.37	.30	.27	.20
196D106X9025KA1*	10	.66	.42	.34	.30	.22
196D126X9025KA1	12	.66	.42	.34	.30	.22

25 WVDC, 32 V SURGE (CONTINUED)

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D186X9025LA3	18	$1.30	$0.82	$0.66	$0.58	$0.41
196D226X9025LA3*	22	1.30	.82	.66	.58	.41
196D276X9025LA3	27	1.30	.82	.66	.58	.41
196D276X9025PE4	27	1.30	.82	.66	.58	.41
196D336X9025LA3*	33	1.30	.82	.66	.58	.41
196D336X9025PE4*	33	1.30	.82	.66	.58	.41
196D396X9025MA3	39	2.26	1.42	1.14	1.00	.70
196D476X9025MA3*	47	2.26	1.42	1.14	1.00	.70
196D566X9025MA3	56	2.26	1.42	1.14	1.00	.70
196D566X9025TE4	56	2.26	1.42	1.14	1.00	.70
196D686X9025MA3*	68	2.26	1.42	1.14	1.00	.70
196D686X9025TE4*	68	2.26	1.42	1.14	1.00	.70

35 WVDC, 46 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D104X9035HA1*	.10	$0.50	$0.32	$0.26	$0.23	$0.17
196D124X9035HA1	.12	.50	.32	.26	.23	.17
196D154X9035HA1*	.15	.50	.32	.26	.23	.17
196D184X9035HA1	.18	.50	.32	.26	.23	.17
196D224X9035HA1*	.22	.50	.32	.26	.23	.17
196D274X9035HA1	.27	.50	.32	.26	.23	.17
196D334X9035HA1*	.33	.50	.32	.26	.23	.17
196D394X9035HA1	.39	.50	.32	.26	.23	.17
196D474X9035HA1*	.47	.50	.32	.26	.23	.17
196D564X9035HA1	.56	.50	.32	.26	.23	.17
196D684X9035HA1*	.68	.50	.32	.26	.23	.17
196D824X9035HA1	.82	.50	.32	.26	.23	.17
196D105X9035HA1*	1.0	.50	.32	.26	.23	.17
196D125X9035JA1	1.2	.58	.37	.30	.27	.20
196D155X9035JA1*	1.5	.58	.37	.30	.27	.20
196D185X9035JA1	1.8	.58	.37	.30	.27	.20
196D225X9035JA1*	2.2	.58	.37	.30	.27	.20
196D275X9035JA1	2.7	.58	.37	.30	.27	.20
196D335X9035JA1*	3.3	.58	.37	.30	.27	.20
196D395X9035JA1	3.9	.58	.37	.30	.27	.20
196D475X9035JA1*	4.7	.58	.37	.30	.27	.20
196D565X9035KA1	5.6	.66	.42	.34	.30	.22
196D685X9035KA1*	6.8	.66	.42	.34	.30	.22
196D825X9035LA3	8.2	1.30	.82	.66	.58	.41
196D825X9035PE4	8.2	1.30	.82	.66	.58	.41
196D106X9035LA3*	10	1.30	.82	.66	.58	.41
196D106X9035PE4*	10	1.30	.82	.66	.58	.41
196D126X9035LA3	12	1.30	.82	.66	.58	.41
196D126X9035PE4	12	1.30	.82	.66	.58	.41
196D156X9035LA3*	15	1.30	.82	.66	.58	.41
196D156X9035PE4*	15	1.30	.82	.66	.58	.41
196D186X9035MA3	18	1.42	.90	.72	.63	.45
196D186X9035PE4	18	1.42	.90	.72	.63	.45
196D226X9035MA3*	22	1.42	.90	.72	.63	.45
196D226X9035PE4*	22	1.42	.90	.72	.63	.45
196D276X9035MA3	27	2.26	1.42	1.14	1.00	.70
196D276X9035TE4	27	2.26	1.42	1.14	1.00	.70
196D336X9035MA3*	33	2.26	1.42	1.14	1.00	.70
196D336X9035TE4*	33	2.26	1.42	1.14	1.00	.70
196D396X9035TE4	39	2.26	1.42	1.14	1.00	.70
196D476X9035TE4*	47	2.26	1.42	1.14	1.00	.70

50 WVDC, 65 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of 5-Pak 1-49	5-Pak 50-99	Bulk Pack 100-499	Bulk Pack 500-999	Bulk Pack 1000-4999*
196D104X9050HA1*	.10	$0.70	$0.45	$0.36	$0.32	$0.23
196D124X9050HA1	.12	.70	.45	.36	.32	.23
196D154X9050HA1*	.15	.70	.45	.36	.32	.23
196D184X9050HA1	.18	.70	.45	.36	.32	.23
196D224X9050HA1*	.22	.70	.45	.36	.32	.23
196D274X9050HA1	.27	.70	.45	.36	.32	.23
196D334X9050HA1*	.33	.70	.45	.36	.32	.23
196D394X9050HA1	.39	.70	.45	.36	.32	.23
196D474X9050HA1*	.47	.70	.45	.36	.32	.23
196D564X9050HA1	.56	.70	.45	.36	.32	.23
196D684X9050HA1*	.68	.70	.45	.36	.32	.23
196D824X9050HA1	.82	.70	.45	.36	.32	.23
196D105X9050HA1*	1.0	.70	.45	.36	.32	.23
196D125X9050JA1	1.2	.78	.50	.40	.35	.25
196D155X9050JA1*	1.5	.78	.50	.40	.35	.25
196D185X9050JA1	1.8	.78	.50	.40	.35	.25
196D225X9050JA1*	2.2	.78	.50	.40	.35	.25
196D275X9050JA1	2.7	.78	.50	.40	.35	.25
196D335X9050JA1*	3.3	.78	.50	.40	.35	.25
196D395X9050KA1	3.9	.86	.55	.44	.39	.28
196D475X9050KA1*	4.7	.86	.55	.44	.39	.28
196D565X9050PE4	5.6	1.32	.90	.68	.61	.44
196D685X9050PE4*	6.8	1.32	.90	.68	.61	.44
196D825X9050PE4	8.2	1.32	.90	.68	.61	.44
196D106X9050PE4*	10	1.32	.90	.68	.61	.44
196D126X9050PE4	12	1.32	.90	.68	.61	.44
196D156X9050PE4*	15	1.32	.90	.68	.61	.44
196D186X9050TE4	18	2.68	1.70	1.35	1.17	.82
196D226X9050TE4*	22	2.68	1.70	1.35	1.17	.82

*±20% tolerance available. Change 9th character in number to **0** (196D106X0004HA1) and deduct **2c** per each price break-out.

***5000 UP BULK PRICING AVAILABLE ON REQUEST**

J. W. Miller Coils and Chokes

SERIES 9350 MOLDED COILS MS 75052

Power and Size: Values 47–150 μH, .30 W max. at 90° C; .250″ dia. x .560″ lg. 180–390 μH, .40 W; .310″ dia. x .560″ lg. 470–1000 μH, .45 W; .375″ dia. x .625″ lg. 1500 μH up, .55 W; .468″ dia. x .687″ lg.

Miller No.	±10% Ind., μH	Min. Q at Freq., mHz	Res. Freq. mHz	Max. Res., Ohms	Max. mA	Each Net
9350-00*	47	18 at 2.5	13.5	5.9	195	$1.02
9350-02*	56	18 at 2.5	13	6.4	185	1.02
9350-04	68	70 at 2.5	13	3.3	255	1.08
9350-06	82	65 at 2.5	11.7	3.5	245	1.08
9350-08	100	65 at 2.5	10.7	3.8	235	1.08
9350-10	120	75 at .790	9.3	4.7	215	1.08
9350-12	150	75 at .790	8.3	5.3	200	1.08
9350-14	180	80 at .790	6.0	5.5	225	1.08
9350-16	220	80 at .790	5.5	5.9	220	1.08
9350-18	270	80 at .790	5.1	6.6	210	1.08
9350-20	330	75 at .790	4.2	7.8	185	1.08
9350-22	390	75 at .790	3.9	8.7	180	1.08
9350-24	470	80 at .790	3.7	9.0	190	1.11
9350-26	560	80 at .790	3.5	10.0	180	1.11
9350-28	680	75 at .790	3.2	11.2	170	1.11
9350-30	820	75 at .790	3.0	13.0	155	1.11
9350-32	1000	70 at .790	2.7	14.5	145	1.14
9350-34	1500	85 at .250	2.2	22.0	127	1.14
9350-36‡	2000	85 at .250	1.9	26.0	125	1.14
9350-37	2200	85 at .250	1.8	27.0	115	1.14
9350-38‡	2500	85 at .250	1.7	30.0	115	1.20
9350-39	2700	85 at .250	1.6	32.0	105	1.20
9350-40‡	5000	70 at .250	1.2	65.0	78	1.20
9350-41	5100	70 at .250	1.0	66.0	73	1.20
9350-44†	10000	70 at .250	.8	70.0	71	1.20

*Phenolic core; †Ferrite core; all others iron core. ‡Not available MS type.

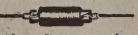
PRINTED CIRCUIT RF CHOKES

Designed to offer a wide range of inductance values for use in printed circuit applications. Standard stock items impregnated with high grade coil varnish to prevent moisture absorption. Available fungus resistance treated or encapsulated in epoxy resin to MIL-C-15305. Coil length, ⅞″. Air core.

Miller No.	Ind., mH ±5% at 1 kHz	Max. DC Resis., Ohms	Min. Self-Res. Freq.	Min. Q at Freq.	Cur., Max. mA	Net Each
970	1.0	20.6	1.57 MHz	45 at 250 kHz	125	$1.38
971	1.2	23.8	1.46 MHz	47 at 250 kHz	125	1.38
972	1.5	26.4	1.38 MHz	49 at 250 kHz	125	2.10
973	1.8	29.6	1.24 MHz	50 at 250 kHz	125	1.38
974	2.2	32.9	1.04 MHz	51 at 250 kHz	125	1.50
975	2.7	37.4	1.06 MHz	52 at 250 kHz	125	1.56
976	3.3	41.8	.985 MHz	52 at 250 kHz	125	1.80
977	3.9	46.7	.900 MHz	52 at 250 kHz	125	1.80
978	4.7	51.8	.848 MHz	52 at 250 kHz	125	1.80
979	5.6	57.6	.760 MHz	51 at 250 kHz	125	1.80
980	6.8	64.4	.716 MHz	51 at 250 kHz	125	1.80
981	8.2	73.0	.520 MHz	38 at 250 kHz	100	1.80
982	10.0	81.6	.480 MHz	43 at 79 kHz	100	2.10
983	12.0	92.4	.424 MHz	46 at 79 kHz	100	2.10
984	15.0	105	.398 MHz	48 at 79 kHz	100	1.24
985	18.0	117	.370 MHz	51 at 79 kHz	100	1.24
986	22.0	130	.320 MHz	51 at 79 kHz	75	2.40
987	27.0	145	.294 MHz	51 at 79 kHz	75	3.00
988	33.0	251	.288 MHz	44 at 79 kHz	75	2.70
989	39.0	277	.264 MHz	44 at 79 kHz	75	3.30
990	47.0	316	.190 MHz	40 at 79 kHz	50	3.30
991	56.0	351	.177 MHz	39 at 79 kHz	50	3.30
992	68.0	391	.160 MHz	33 at 79 kHz	50	3.30
993	82.0	442	.145 MHz	31 at 79 kHz	50	3.30
994	100.0	473	.138 MHz	29 at 79 kHz	50	3.30

FREQUENCY SELECTIVE RF CHOKES

Designed for maximum efficiency and highest impedance at specific operating frequencies. Covers major amateur and industrial communication frequencies. Conservatively rated 600 mA.



Miller No.	Inductance ±10%	Freq. Range	Net Each
RFC-3.5	266 μH	1.8–5 MHz	$2.67
RFC-7	208 μH	3–13 MHz	2.18
RFC-14	84 μH	7–20 MHz	2.25
RFC-21	38.5 μH	15–30 MHz	1.86
RFC-28	24 μH	25–40 MHz	1.44
RFC-50	8.2 μH	30–90 MHz	1.29
RFC-144	1.72 μH	75–180 MHz	.90
RFC-220	.82 μH	160–340 MHz	1.14
RFC-420	.22 μH	350–500 MHz	1.80

ECONOMY ADJUSTABLE RF CHOKES

Adjustable from either top or bottom; ferrite core. Mount by metal clip in ¼″ round or keyed hole. Size: ⅜″ dia. x 1⅜″.

Miller No.	Ind., μH	Net Each	Miller No.	Ind., μH	Net Each
4200-0	Form*	$0.98	4205	10–25	$1.65
4201	0.3–0.58	1.62	4206	20–55	2.22
4201-A	0.55–1.1	2.31	4207	50–140	1.98
4202	1–2.5	1.77	4208	120–330	2.10
4203	2–5.5	1.65	4209	310–860	2.10
4204	5–12	1.65			

*Less core.

RESINITE ADJUSTABLE RF COILS

Phenolic impregnated tubing for high dielectric strength, moisture resistance and non-corrosive properties. Can be certified to MIL-P-79B, Type PBG. Maximum inductance is ±5%.

MINIATURE ADJUSTABLE RF COILS

Size: ¼″ dia. x 13/16″ lg., form. Fits 13/64″ mounting hole.

Miller No.	Inductance, μH Min.	At MHz	Max.	At MHz	Min. Q at L	DCR, Ohms	Max. mA	Net Each
20A000-0	Form less core							$1.17
20A107RBI	.088	25	.120	25	56–51	.041	1600	2.55
20A157RBI	.131	25	.180	25	77–72	.044	1600	2.70
20A227RBI	.162	25	.264	25	77–68	.051	1600	2.70
20A337RBI	.238	25	.396	25	64–68	.054	1000	2.55
20A477RBI	.356	25	.564	25	66–60	.078	1000	2.70
20A687RBI	.508	25	.816	25	72–50	.082	635	2.70
20A827RBI	.735	25	.984	25	57–41	.090	635	2.70
20A106RBI	.885	25	1.20	7.9	53–42	.135	400	2.70
20A156RBI	1.08	7.9	1.80	7.9	44–44	.205	400	2.70
20A226RBI	1.62	7.9	2.64	7.9	39–44	.522	100	2.70
20A336RBI	2.38	7.9	3.96	7.9	40–42	.640	100	2.70
20A476RBI	3.56	7.9	5.64	7.9	44–42	.770	100	2.70
20A686RBI	5.08	7.9	8.16	7.9	43–40	.950	100	2.70
20A826RBI	7.35	7.9	9.84	7.9	45–38	1.00	100	2.70
20A105RBI	8.85	7.9	12.0	2.5	37–45	1.45	100	2.88
20A155RBI	10.8	2.5	18.0	2.5	32–52	1.70	100	2.70
20A225RBI	16.2	2.5	26.4	2.5	39–42	2.10	100	2.70
20A335RBI	23.8	2.5	39.6	2.5	40–40	2.59	100	2.70
20A475RBI	35.6	2.5	56.4	2.5	42–37	3.10	100	2.70
20A685RBI	50.8	2.5	81.6	2.5	36–32	3.84	100	2.70
20A825RBI	73.5	2.5	98.4	2.5	38–36	4.71	100	2.70
20A104RBI	88.5	2.5	120.	.79	32–37	5.00	100	3.00
20A154RBI	108.	.79	180.	.79	28–40	5.95	100	2.70
20A224RBI	162.	.79	264.	.79	40–38	7.50	100	2.88
20A334RBI	238.	.79	396.	.79	43–44	9.50	100	2.70
20A474RBI	356.	.79	564.	.79	43–38	12.0	100	2.88
20A684RBI	508.	.79	816.	.79	40–32	14.5	100	2.88
20A824RBI	735.	.79	984.	.79	39–32	17.0	100	2.88
20A103RBI	885.	.79	1.20*	.25	40–24	21.0	100	3.00

*mH.

STANDARD ADJUSTABLE RF COILS

Size: ⅜″ dia. x 1⅛″ lg., form. Fits ¼″ mounting hole.

Miller No.	Inductance, μH Min.	At MHz	Max.	At MHz	Min. Q at L	DCR, Ohms	Max. mA	Net Each
21A000-0	Form less core							$1.20
21A106RBI	.885	25	1.20	7.9	64–52	.121	635	2.85
21A156RBI	1.08	7.9	1.80	7.9	55–52	.135	635	2.85
21A226RBI	1.62	7.9	2.64	7.9	56–44	.160	635	2.85
21A336RBI	2.38	7.9	3.96	7.9	65–35	.184	635	2.85
21A476RBI	3.56	7.9	5.64	7.9	60–44	.210	635	2.85
21A686RBI	5.08	7.9	8.16	7.9	57–41	.468	255	2.85
21A826RBI	7.35	7.9	9.84	7.9	53–44	.780	255	2.85
21A105RBI	8.85	7.9	12.0	2.5	47–51	1.46	100	2.88
21A155RBI	10.8	2.5	18.0	2.5	40–49	1.76	100	2.88
21A225RBI	16.2	2.5	26.4	2.5	36–41	2.08	100	2.88
21A335RBI	23.8	2.5	39.6	2.5	36–32	2.56	100	2.88
21A475RBI	35.6	2.5	56.4	2.5	36–38	3.50	100	2.88
21A685RBI	50.8	2.5	81.6	2.5	32–32	3.50	100	2.88
21A825RBI	73.5	2.5	98.4	2.5	27–36	3.94	100	2.88
21A104RBI	88.5	2.5	120.	.79	27–40	4.43	100	2.91
21A154RBI	108.	.79	180.	.79	20–40	5.88	100	2.91
21A224RBI	162.	.79	264.	.79	33–39	7.20	100	2.91
21A334RBI	238.	.79	396.	.79	34–38	9.20	100	2.91
21A474RBI	356.	.79	564.	.79	33–35	10.7	100	2.91
21A684RBI	508.	.79	816.	.79	32–32	12.8	100	5.31
21A824RBI	735.	.79	984.	.79	26–26	15.0	100	2.91
21A103RBI	885.	.79	1.20*	.25	26–28	17.6	100	2.94
21A153RBI	1.08*	.25	1.80*	.25	32–32	22.8	100	2.94
21A223RBI	1.62*	.25	2.64*	.25	36–35	28.6	100	2.94
21A333RBI	2.38*	.25	3.96*	.25	32–31	49.8	65	3.64
21A473RBI	3.56*	.25	5.64*	.25	37–32	64.7	65	2.95
21A683RBI	5.08*	.25	8.16*	.25	36–32	76.1	65	2.95
21A823RBI	7.35*	.25	9.84*	.25	36–20	91.0	65	2.95
21A102RBI	8.85*	.25	12.0*	79.†	36–18	104.	65	2.94

*mH. †kHz.

SHIELDED SUBMINIATURE RF COILS

Minimum 2:1 inductance range with small Q change. Adjustable from top or bottom. Cup core magnetic shielding; metal electrostatic shield. Printed circuit terminals on base and shield. **Size:** ½″ sq. x ⅝″ high.

Miller No.	Inductance, μH Min.	At kHz	Max.	At kHz	Min. Q at Induct.	Max. Resis., Ohms	Max. mA	Net Each
9050	1.5	7.9§	3.0	7.9§	40–41	.66	80	$2.94
9051	3.0	7.9§	7.0	7.9§	46–45	.85	125	2.94
9052	7.0	7.9§	14.0	2.5§	40–62	1.38	80	2.97
9053	14.0	2.5§	28.0	2.5§	48–66	2.10	80	2.97
9054	28.0	2.5§	60.0	2.5§	48–45	3.00	100	3.00
9055	60.0	2.5§	120.	790.0	40–69	4.00	100	3.00
9056	120.	790.0	280.	790.0	52–68	5.75	80	3.00
9057	280.	790.0	650.	790.0	52–62	12.0	80	3.60
9058	650.	790.0	1.3#	250.0	36–68	15.0	100	3.60
9059	1.3#	250.0	3.0#	250.0	43–53	23.0	100	3.60
9059-1	1.8#	250.0	2.2#	250.0	116–129	10.0	141	3.60
9060	3.0#	250.0	10.0#	79.0	32–32	76.0	30	4.35
9061	8.0#	250.0	20.0#	79.0	35–38	110.0	30	4.35
9062	15.0#	79.0	40.0#	79.0	25–40	150.0	30	4.35
9063	20.0#	79.0	60.0#	79.0	36–60	175.0	25	4.35

#mH. §MHz.

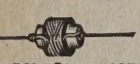
J. W. Miller RF Chokes

SERIES 9230 MOLDED MICRO-MINIATURES

Color coded per MIL-C-15305*. **Power Rating:** .17 watt max. at 90° C. **Inductance:** ±10%. **Size:** .095″ dia. x .250″ lg.; leads #24 AWG, 1½″ lg. Iron core except as noted.

Miller No.	Ind., μH	Min. Q at Freq., MHz	Min. Reson., MHz	Max. Res., Ohms	Max. mA‡	Net Each
9230-94*	.10	40 at 25	690	.07	1100	$1.02
9230-96*	.12	40 at 25	650	.08	1100	1.02
9230-00*	.15	38 at 25	600	.10	1100	1.02
9230-02*	.18	35 at 25	550	.12	1010	1.02
9230-04*	.22	33 at 25	510	.14	935	1.02
9230-06*	.27	33 at 25	430	.16	875	1.02
9230-08*	.33	30 at 25	410	.20	780	1.02
9230-10*	.39	30 at 25	380	.30	640	1.02
9230-12*	.47	30 at 25	340	.35	590	1.02
9230-14*	.56	30 at 25	300	.50	495	1.02
9230-16*	.68	28 at 25	275	.60	450	1.02
9230-18*	.82	28 at 25	250	.85	380	1.02
9230-20*	1.0	25 at 25	230	1.00	350	1.02
9230-22	1.2	25 at 7.9	150	.18	825	1.08
9230-24	1.5	28 at 7.9	140	.22	745	1.08
9230-26	1.8	30 at 7.9	125	.30	640	1.08
9230-28	2.2	30 at 7.9	115	.40	550	1.08
9230-30	2.7	37 at 7.9	100	.50	495	1.08
9230-32	3.3	45 at 7.9	90	.85	380	1.08
9230-34	3.9	45 at 7.9	82	1.00	350	1.08
9230-36	4.7	45 at 7.9	75	1.20	320	1.08
9230-38	5.6	50 at 7.9	68	1.80	260	1.23
9230-40	6.8	50 at 7.9	60	2.00	245	1.23
9230-42	8.2	55 at 7.9	55	2.70	210	1.23
9230-44	10.0	55 at 7.9	50	3.70	180	1.23
9230-46	12.0	45 at 2.5	40	2.70	210	1.32
9230-48	15.0	45 at 2.5	35	2.80	205	1.32
9230-50	18.0	50 at 2.5	32	3.10	195	1.32
9230-52	22.0	50 at 2.5	25	3.30	190	1.32
9230-54	27.0	50 at 2.5	22	3.50	185	1.32
9230-56†	33.0	45 at 2.5	24	3.40	187	1.41
9230-58†	39.0	45 at 2.5	22	3.60	180	1.65
9230-60†	47.0	45 at 2.5	20	4.50	165	1.65
9230-62†	56.0	45 at 2.5	18	5.70	145	1.65
9230-64†	68.0	50 at 2.5	15	6.70	135	1.65
9230-66†	82.0	50 at 2.5	14	7.30	130	1.65
9230-68†	100.0	50 at 2.5	13	8.00	125	1.65
9230-70†	120.0	30 at .79	12	13.00	97	2.25
9230-72†•	150.0	30 at .79	11	15.00	85	2.25
9230-74†•	180.0	30 at .79	10	17.00	79	2.25
9230-76†•	220.0	30 at .79	9	21.00	73	2.25
9230-78†•	270.0	30 at .79	8	25.00	65	2.25
9230-80†•	330.0	30 at .79	7	28.00	62	2.25
9230-82†•	390.0	30 at .79	6.5	35.00	55	2.25
9230-84†•	470.0	30 at .79	6	42.00	50	2.25
9230-86†•	560.0	30 at .79	5	46.00	48	2.25
9230-88†•	680.0	30 at .79	4.2	60.00	42	2.25
9230-90†•	820.0	30 at .79	3.8	65.00	40	2.25
9230-92†•	1000.0	30 at .79	3.4	72.00	38	2.25

PI-WOUND RF COILS



Single pi-wound on ferrite core; impregnated with fungus-resistant lacquer. **Inductance:** ±5%. **Size:** .187″ x ⅜″ form.

73F104AF	100	140 at .79	7.7	2.0	250	$1.63
73F124AF	120	140 at .79	7.0	2.2	250	1.65
73F154AF	150	160 at .79	6.3	2.5	250	1.11
73F184AF	180	160 at .79	6.0	2.9	250	1.17
73F224AF	220	160 at .79	5.6	3.2	250	1.11
73F274AF	270	160 at .79	5.1	3.6	250	1.11
73F334AF	330	160 at .79	4.8	3.8	250	1.11
73F394AF	390	160 at .79	4.4	4.2	225	1.11
73F474AF	470	160 at .79	3.9	4.8	200	1.11
73F564AF	560	160 at .79	3.6	5.3	200	1.59
73F684AF	680	160 at .79	3.4	6.0	200	1.32
73F824AF	820	150 at .79	3.1	6.8	200	1.17
73F103AF	1.0 mH	140 at .79	2.6	7.5	150	1.17
73F123AF	1.2 mH	140 at .25	2.2	7.8	150	1.17
73F153AF	1.5 mH	140 at .25	2.0	8.8	150	1.65
73F183AF	1.8 mH	140 at .25	1.8	11.0	150	1.17
73F223AF	2.2 mH	100 at .25	1.5	12.0	150	1.17
73F273AF	2.7 mH	100 at .25	1.4	13.5	125	1.17
73F333AF	3.3 mH	100 at .25	1.3	15.1	125	1.29
73F393AF	3.9 mH	95 at .25	1.2	18.0	125	1.29
73F473AF	4.7 mH	95 at .25	1.0	21.5	100	1.29
73F563AF	5.6 mH	95 at .25	1.0	25.0	80	1.50
73F683AF	6.8 mH	95 at .25	.90	29.0	80	1.47
73F823AF	8.2 mH	70 at .25	.91	30.0	80	2.10
73F102AF	10.0 mH	65 at .25	.85	34.0	80	1.53

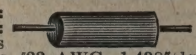
★CHOKE COLOR CODING

MIL identifier is wide silver band (or large dot on small units) at one end of coil. Three narrow bands (or small dots) follow: When first or second is gold, it indicates a decimal point for values less than 10 μH; other bands are significant figures. Above 10 μH, first two bands are significant; third band, multiplier. Fourth band of silver indicates ±10% tol.

Significant Figure Identification						Multiplier Band	
Color	Sig. No.	Color	Sig. No.	Color	Sig. No.	Color	Multiplier
Black	0	Yellow	4	Gray	8	Black	1
Brown	1	Green	5	White	9	Brown	10
Red	2	Blue	6			Red	100
Orange	3	Violet	7			Orange	1000

*Phenolic core. †Ferrite core. ‡Based on temp. rise no more than 35° C at 90° C ambient; and, overload not above 1½ times rated current. #mH. §MHz. •Power: .15 W max. at 90° C.

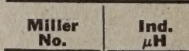
SERIES 9250 MOLDED MINIATURE RF CHOKES



Conform to MIL-C-15305*. **Shielding:** Electromagnetic, less than 3% cplg. **Core:** .10–.82 μH, phenolic; 1–12 μH, iron; others ferrite. **Size:** .157″ dia. x .395″ lg.; leads #22 AWG, 1.438″ lg.

Miller No.	Ind., ±10% μH	Min. Q at Freq. MHz	Min. Reson., MHz	Max. Res., Ohms	Max. mA‡	Net Each
9250-101	.10	50 at 25	250	.025	2900	$1.68
9250-121	.12	51 at 25	250	.034	2800	1.68
9250-151	.15	51 at 25	250	.037	2750	1.68
9250-181	.18	50 at 25	250	.047	2200	1.68
9250-221	.22	49 at 25	250	.067	1700	1.68
9250-271	.27	47 at 25	250	.11	1500	1.68
9250-331	.33	46 at 25	250	.13	1300	1.68
9250-391	.39	44 at 25	250	.18	1100	1.68
9250-471	.47	44 at 25	235	.25	1000	1.68
9250-561	.56	43 at 25	210	.33	900	1.68
9250-681	.68	42 at 25	190	.45	750	1.68
9250-821	.82	40 at 25	180	.59	600	1.68
9250-102	1.00	47 at 25	140	.07	1900	1.98
9250-122	1.20	46 at 7.9	130	.093	1600	1.98
9250-152	1.50	45 at 7.9	115	.12	1300	1.98
9250-182	1.80	43 at 7.9	105	.14	1200	1.98
9250-222	2.20	45 at 7.9	100	.19	1100	1.98
9250-272	2.70	46 at 7.9	92	.28	950	1.98
9250-332	3.30	44 at 7.9	85	.35	800	1.98
9250-392	3.90	44 at 7.9	75	.40	750	1.98
9250-472	4.70	44 at 7.9	70	.55	650	1.98
9250-562	5.60	47 at 7.9	65	.72	550	1.98
9250-682	6.80	50 at 7.9	55	1.02	500	1.98
9250-822	8.20	50 at 7.9	50	1.32	475	1.98
9250-103	10.0	49 at 7.9	46	1.62	450	1.98
9250-123	12.0	55 at 2.5	44	2.00	400	1.98
9250-153	15.0	44 at 2.5	49	.80	620	2.34
9250-183	18.0	45 at 2.5	45	.89	610	2.34
9250-223	22.0	46 at 2.5	41	.96	600	2.34
9250-273	27.0	49 at 2.5	38	1.19	500	2.34
9250-333	33.0	45 at 2.5	34	1.37	490	2.34
9250-393	39.0	53 at 2.5	29	1.93	410	2.34
9250-473	47.0	52 at 2.5	27	2.11	400	2.34
9250-563	56.0	49 at 2.5	25	2.23	380	2.34
9250-683	68.0	51 at 2.5	21	2.70	370	2.34
9250-823	82.0	45 at 2.5	10.5	2.44	360	2.82
9250-104	100.0	52 at 2.5	10	3.12	325	2.82
9250-124	120.0	57 at .79	9.7	3.60	290	2.82
9250-154	150.0	56 at .79	8.5	4.10	275	2.82
9250-184	180.0	60 at .79	8.0	4.40	260	2.82
9250-224	220.0	58 at .79	7.5	5.00	250	2.82
9250-274	270.0	60 at .79	7.0	5.80	240	2.82
9250-334	330.0	54 at .79	6.5	6.40	225	2.82
9250-394	390.0	67 at .79	6.2	7.40	200	2.82
9250-474	470.0	60 at .79	5.7	9.50	180	2.82
9250-564	560.0	60 at .79	4.7	10.5	174	2.82
9250-684	680.0	60 at .79	4.5	11.8	168	2.82
9250-824	820.0	57 at .79	4.2	13.0	152	2.82
9250-105	1 mH	65 at .79	3.8	17.5	135	2.82
9250-125	1.2 mH	45 at .25	1.5	22.1	115	3.00
9250-155	1.5 mH	49 at .25	1.2	26.5	110	3.00
9250-185	1.8 mH	47 at .25	1.0	29.9	105	3.00
9250-225	2.2 mH	50 at .25	.97	33.8	99	3.00
9250-275	2.7 mH	47 at .25	.92	47.3	83	3.00
9250-335	3.3 mH	43 at .25	.84	53.0	80	3.00
9250-395	3.9 mH	43 at .25	.80	73.8	67	3.00
9250-475	4.7 mH	44 at .25	.74	81.6	63	3.00
9250-565	5.6 mH	45 at .25	.73	98.9	56	3.00
9250-685	6.8 mH	43 at .25	.66	111.0	54	3.00
9250-825	8.2 mH	42 at .25	.54	119.0	52	3.00
9250-106	10.0 mH	39 at .25	.47	137.0	49	3.00
9250-126	12.0 mH	31 at .079	.33	143.0	46	4.01
9250-156	15.0 mH	31 at .079	.29	157.0	45	4.01
9250-186	18.0 mH	31 at .079	.28	175.0	41	4.01
9250-226	22.0 mH	27 at .079	.25	274.0	33	4.01
9250-276	27.0 mH	27 at .079	.21	308.0	31	4.01
9250-336	33.0 mH	27 at .079	.19	343.0	30	4.01
9250-396	39.0 mH	27 at .079	.17	376.0	27	4.01
9250-476	47.0 mH	23 at .079	.16	473.0	26	4.01
9250-566	56.0 mH	23 at .079	.14	512.0	25	4.01
9250-686	68.0 mH	23 at .079	.13	580.0	24	4.01
9250-826	82.0 mH	21 at .079	.12	618.0	23	4.01
9250-107	100.0 mH	18 at .079	.11	678.0	22	4.01

SERIES 9360 MOLDED RF CHOKES



Conform to MIL type LT8K*. **Inductance:** ±20%, 1.1–2.2 μH; ±10%, all others. **Size:** .281″ dia. x .937″ lg.; leads 1.5″ lg. Iron core except as noted.

Miller No.	Ind. μH	Min. Q at Freq., MHz	Min. Reson., MHz	Max. Res., Ohms	Max. mA‡	Net Each
9360-01*	1.1	60 at 10.0	200	.09	2800	$1.26
9360-02*	2.2	65 at 10.0	165	.20	1800	1.26
9360-03*	3.3	50 at 6.0	130	.32	1500	1.26
9360-04*	4.7	45 at 5.0	100	.60	1100	1.26
9360-05*	6.8	40 at 4.0	90	1.10	800	1.26
9360-06*	10.0	40 at 3.5	70	1.80	600	1.26
9360-07*	15.0	40 at 3.0	55	3.00	500	1.26
9360-08	22.0	30 at 2.5	27	.30	1500	1.35
9360-09	33.0	45 at 2.0	21	.60	1100	1.35
9360-10	47.0	70 at 1.5	16	1.20	700	1.35
9360-11	82.0	85 at 1.2	14	2.20	600	1.35
9360-12	100	85 at 1.0	14	2.80	500	1.35
9360-13	120	85 at 1.0	13	4.00	400	1.35

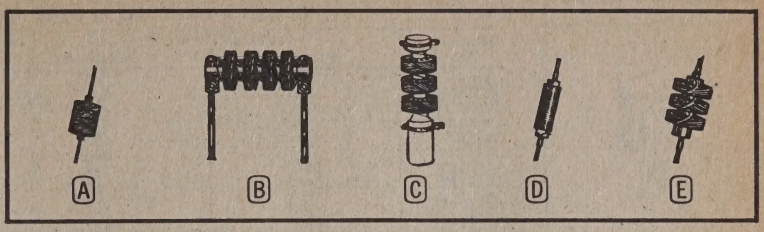
J. W. Miller RF Chokes

SUBMINIATURE RF CHOKES

(FIG. A)

Versatile iron core RF chokes meet the industries' demand for high reliability, ultra-miniature components. Ideally suited to network and filter design, delay lines, and computer applications. Tolerance: 0.1 μH-1 μH, ±20%; 1.1-15 μH, ±10%; over 15 μH, ±5%.

Miller No. 70F-	Ind.	Minimum Q at Freq.	Net Each
107AP	.10 μH	49 at 25 MHz	$0.84
157AP	.15 μH	52 at 25 MHz	.84
227AP	.22 μH	48 at 25 MHz	.84
337AP	.33 μH	47 at 25 MHz	.84
477AP	.47 μH	46 at 25 MHz	.84
687AP	.68 μH	48 at 25 MHz	.84
757AP	.75 μH	48 at 25 MHz	.84
827AP	.82 μH	48 at 25 MHz	.84
106AI	1 μH	41 at 25 MHz	.84
126AI	1.2 μH	45 at 7.9 MHz	1.20
156AI	1.5 μH	42 at 7.9 MHz	.84
186AI	1.8 μH	31 at 7.9 MHz	1.11
226AI	2.2 μH	43 at 7.9 MHz	.84
276AI	2.7 μH	34 at 7.9 MHz	.84
336AI	3.3 μH	40 at 7.9 MHz	.84
396AI	3.9 μH	35 at 7.9 MHz	.84
476AI	4.7 μH	43 at 7.9 MHz	.84
566AI	5.6 μH	41 at 7.9 MHz	.84
686AI	6.8 μH	40 at 7.9 MHz	.84
756AI	7.5 μH	32 at 7.9 MHz	.84
826AI	8.2 μH	37 at 7.9 MHz	.84
916AI	9.1 μH	41 at 7.9 MHz	.84
105AI	10 μH	36 at 7.9 MHz	.96
125AI	12 μH	52 at 2.5 MHz	.96
155AI	15 μH	52 at 2.5 MHz	.96
185AI	18 μH	52 at 2.5 MHz	.96
225AI	22 μH	51 at 2.5 MHz	.96
255AI	25 μH	48 at 2.5 MHz	1.20
275AI	27 μH	49 at 2.5 MHz	.96
335AI	33 μH	50 at 2.5 MHz	.96
395AI	39 μH	48 at 2.5 MHz	.96
475AI	47 μH	44 at 2.5 MHz	.96
565AI	56 μH	45 at 2.5 MHz	.96
685AI	68 μH	42 at 2.5 MHz	.96
755AI	75 μH	38 at 2.5 MHz	.96
825AI	82 μH	41 at 2.5 MHz	.96
915AI	91 μH	41 at 2.5 MHz	.96
104AI	100 μH	25 at 2.5 MHz	.96
124AI	120 μH	40 at 790 kHz	.96
154AI	150 μH	47 at 790 kHz	.96
184AI	180 μH	48 at 790 kHz	.96
204AI	200 μH	47 at 790 kHz	.96
224AI	220 μH	46 at 790 kHz	.96
254AI	250 μH	49 at 790 kHz	.96
274AI	270 μH	46 at 790 kHz	.96
304AI	300 μH	46 at 790 kHz	1.20
334AI	330 μH	41 at 790 kHz	.96
354AI	350 μH	46 at 790 kHz	.96
394AI	390 μH	45 at 790 kHz	1.02
474AI	470 μH	35 at 790 kHz	1.02
504AI	500 μH	49 at 790 kHz	1.02
564AI	560 μH	41 at 790 kHz	1.41
684AI	680 μH	37 at 790 kHz	1.02
754AI	750 μH	40 at 790 kHz	1.02
824AI	820 μH	33 at 790 kHz	1.02
914AI	910 μH	32 at 790 kHz	1.02
103AI	1.00 mH	30 at 790 kHz	1.02
123AI	1.20 mH	34 at 250 kHz	1.02
153AI	1.50 mH	40 at 250 kHz	1.02
183AI	1.80 mH	40 at 250 kHz	1 32
223AI	2.20 mH	40 at 250 kHz	1.11
253AI	2.50 mH	48 at 250 kHz	1.14
273AI	2.70 mH	50 at 250 kHz	1.14
333AI	3.30 mH	52 at 250 kHz	1.14
393AI	3.90 mH	53 at 250 kHz	1.14
473AI	4.70 mH	49 at 250 kHz	1.14
563AI	5.60 mH	53 at 250 kHz	1.17
683AI	6.80 mH	51 at 250 kHz	1.14
753AI	7.50 mH	49 at 250 kHz	1.14
823AI	8.20 mH	48 at 250 kHz	1.38
913AI	9.10 mH	52 at 250 kHz	1.38
102AI	10.0 mH	41 at 250 kHz	1.38
122AI	12 mH	46 at 79 kHz	1.47
152AI	15 mH	50 at 79 kHz	1.47
182AI	18 mH	49 at 79 kHz	1.47
222AI	22 mH	50 at 79 kHz	1.56
252AF	25 mH	59 at 79 kHz	1.47
272AF	27 mH	61 at 79 kHz	1.62
332AF	33 mH	61 at 79 kHz	1.50
392AF	39 mH	59 at 79 kHz	1.71
472AF	47 mH	57 at 79 kHz	1.56
502AF	50 mH	57 at 79 kHz	1.62
562AF	56 mH	57 at 79 kHz	1.71
682AF	68 mH	57 at 79 kHz	1.80
752AF	75 mH	53 at 79 kHz	1.95
822AF	82 mH	50 at 79 kHz	2.55
912AF	91 mH	51 at 79 kHz	1.95
101AF	100 mH	48 at 79 kHz	2.07



CERAMIC CORE RF CHOKES

Wound on ¼" dia. form; impregnated with moisture- and fungus-resistant varnish. Low distributed capacity and accurate inductance values. Form size, ¼" dia. x 1½" lg. Tol., ±5%.

MULTIPLE PI-WOUND (FIG. B)

Miller No.	mH	Max. Ohms	mA	Net Each
4531-0	0.25	9.6	200	$3.18
4531	.5	14.4	200	3.18
4531-1	1	20.4	200	3.30
4532	1.5	25.2	200	3.30
4537	2.5	33.6	200	3.06
4538	5	50.4	125	4.89
4539	7.5	98.4	125	6.00
4540	10	114	125	6.00
4541	25	192	125	6.00

SINGLE LAYER WOUND CHOKES

For UHF receivers and low-power transmitters. Tolerance, ±10%.

Miller No.	μH	Max. Ohms	mA	Net Each
4528-1	1*	.036	300	$3.30
4528	2.5	.108	300	3.30
4529	5	.300	300	3.81
4529-10	10	1.14	300	3.81

*Tolerance, ±20%.

PROGRESSIVE WOUND CHOKES

4515	25	1.92	300	$2.94
4517	50	2.52	300	3.00
4519	100	3.60	300	3.51

CERAMIC FORM RF CHOKES (FIG. C)

High quality fixed coils wound on silicone impregnated steatite form. Coils are stand-off type mounted by a single 6-32 screw. Primary application is in low power transmitters, etc., where relatively high current capacity and low distributed capacitance are important. Tolerance: ±5% at 1000 Hz. Form 11/16" dia. x 1 15/16" long.

Miller No.	Ind., mH	Max. Ohms	Current mA	Net Each
4552	0.25	9.6	150	$3.60
4553	0.50	14.4	150	3.60
4554	1.0	20.4	150	3.90
4555	2.5	33.6	150	3.60
4556	5.0	54.0	150	4.20
4557	0.25	4.2	300	4.80
4558	0.50	6.6	300	4.80
4559	1.0	11.5	300	4.80
4560	2.5	20.4	300	5.28
4561	5.0	22.8	300	5.76

HEAVY-DUTY HASH CHOKES

Tolerance, ±20%.

No.	μH	Ohms	Amps	Net Ea.
5218	3.35	.010	20	$2.04
5219	4.9	.016	15	2.04
5220	8.8	.021	10	1.65
5230	4.0	.012	8	1.65
5240	40.0	.082	3	1.65
5248	68.0	.054	5	1.71
5250	100	.216	2	1.71
5252	125	.080	3.5	2.10
5254	250	.170	2.5	2.10
5256	500	.260	2.0	2.10

J. W. MILLER MANUFACTURES VARIOUS OTHER TYPES OF CHOKES AND COILS. WRITE FOR A COMPLETE CATALOG.

AXIAL LEAD RF CHOKES

Cover 0.1 μH to 10 mH in 5 decades with 8 coils per decade; inductance increases in steps of approx. 50%. Wound on low loss molded phenolic or powdered iron core forms; impregnated with a moisture and fungus resistant varnish. Powdered iron used permits operation at all frequencies up into the UHF region. Phenolic form 1/16" dia. x ¾" lg. Iron core form 7/64" dia. x ⅞" lg. Leads 1½" lg. Tolerance: 0.10-1 μH, ±20%; 1.1-10 μH, ±10%; 10 μH and up, ±5%.

PHENOLIC FORM—SINGLE WINDINGS (FIG. D)

Miller No.	Ind., μH	Min. Q	Max. Ohms	Min. MHz	Net Each
4580	0.10	68	.017	500	$1.15
4582	0.15	73	.018	410	1.15
4584	0.22	77	.020	340	.87
4586	0.33	80	.024	288	.87
4588	0.47	90	.034	243	.87
4590	0.68	83	.036	208	.87
4592	0.75	81	.040	204	.87
4594	0.82	88	.043	200	.87
4602	1.00	60	.050	190	.72
4604	1.50	58	.093	149	.72
4606	2.40	56	.190	120	.72
4608	3.90	60	.450	93	.72
4609	5.50	57	.670	80	.72
4610	6.20	57	.830	76	.75
4611	8.20	57	1.20	65	.75
4612	10.0	36	1.50	61	.75

IRON CORE FORM—SINGLE WINDINGS (FIG. D)

4622	10.0	69	.11	40	$0.81
4624	15.0	62	.17	33	.81
4626	24.0	65	.34	25	.81
4628	39.0	70	.65	20	.84
4629	55.0	72	1.0	17	.90
4630	62.0	83	1.2	16	.90
4631	82.0	85	1.9	13	.90
4632	100	107	3.0	12	.90

PHENOLIC FORM—3-SECTION (FIG. E)

Miller No.	Ind., mH	Min. Q	Max. Ohms	Min. MHz	Net Each
4642	0.10	49	5.4	11	$1.05
4644	0.15	53	6.5	8.8	1.05
4646	0.24	56	8.5	7.2	1.11
4648	0.39	57	11	5.6	1.38
4649	0.55	58	13	4.8	1.38
4650	0.62	59	15	4.5	1.38
4651	0.75	56	16	4.0	1.38
4652	1.00	59	19	3.7	1.38

IRON CORE—3-SECTION (FIG. E)

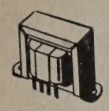
Miller No.	Ind., mH	Min. Q	Max. Ohms	Min. MHz	Net Each
4662	1.00	83	8.6	2.6	$1.38
4664	1.50	82	11	2.1	1.38
4666	2.40	80	15	1.7	1.38
4668	3.90	73	20	1.4	1.74
4669	5.50	69	25	1.1	1.74
4670	6.20	89	37	1.0	1.98
4671	8.20	83	46	.94	1.98
4672	10.0	68	50	.82	1.80

FERRITE CORE—3-SECTION (FIG. E)

High permeability, high inductance and low DC resistance with small size. Tol., ±5%. Core, ¼" dia. x ⅞" lg.; axial leads, 1½" lg.

Miller No.	Ind., mH	Min. Q	Max. Ohms	Min. MHz	Net Each
6302	2.5	106	9.0	1.3	$1.38
6304	5.0	91	14	1.0	1.59
6306	10.0	108	31	.71	1.74
6308	25.0	102	82	.47	1.71
6310	50.0	113	127	.33	1.91

TRANSFORMERS AND VOLTAGE CORRECTOR



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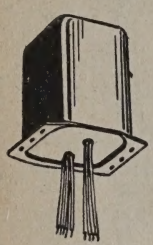

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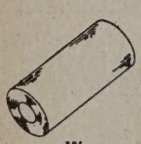

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NV

SINGLE PLATE TO VOICE COIL AND/OR LINE

Stancor No.	Impedance in Ohms Primary	Secondary	Audio Watts	Mtg. Type	Net Each, Quantities of 1-9	10-24	25-49	50-99
A-3332	2000	3.2	3	A	$2.50	$2.25	$2.03	$1.88
A-3876	2000	4.0	5	A	2.42	2.18	1.96	1.82
A-3336	2500*	3.5	5	A	3.08	2.77	2.49	2.31
A-3328	4000	3.5	3	A	2.08	1.87	1.68	1.56
A-3877	5000	4.0	5	A	2.50	2.25	2.03	1.88
A-3309	5000	3–4	3	A	2.58	2.32	2.09	1.94
A-8092	5000	3–4	8	A	3.08	2.77	2.49	2.31
A-3337	5000	6–8	10	S	3.67	3.30	2.97	2.75
A-3310	5000	500/15/8/4	20	C	9.84	8.86	7.97	7.38
A-3878	7000	4.0	5	A	2.42	2.18	1.96	1.82
A-3329	8000	3.5	3	A	2.17	1.95	1.76	1.63
A-3879	10000	4.0	5	A	2.50	2.25	2.03	1.88
A-3881	15000	4.0	5	A	2.67	2.40	2.16	2.00
A-3250	20000/10000 5000	500/333/200 125/50	5	A	5.83	5.25	4.72	4.37
A-3327	25000	4.0	5	A	2.92	2.63	2.37	2.19

*Has 3% and 6% primary taps.

PUSH-PULL PLATES TO VOICE COIL AND/OR LINE

Stancor No.	Impedance in Ohms Primary, CT	Secondary	Audio Watts	Mtg. Type	Net Each, Quantities of 1-9	10-24	25-49	50-99
A-3872	5000	15/8/4	18	SC	$ 9.42	$ 8.48	$ 7.63	$ 7.07
A-3800	5000	500/250/15/8/4	30	C	10.59	9.53	8.58	7.94
A-3801	6600	500/250/15/8/4	35	C	13.34	12.01	10.81	10.01
A-3311	10000	500/15/8/4	25	C	10.84	9.76	8.78	8.13
A-8093	10000	3–4	10	A	3.08	2.77	2.49	2.31
A-3335	10000	6–8/3.2–4	10	S	3.92	3.53	3.18	2.94
PCO-150	10000*	600/150/16/8/4	15	SC	25.84	23.26	20.93	19.38
A-3250	20000	500/333/200/125/50	5	A	5.83	5.25	4.72	4.37
A-3857	25000	4.0	5	A	3.17	2.85	2.57	2.38

*Has cathode feedback winding.

HIGH FIDELITY OUTPUT TRANSFORMERS

Frequency response excellent, ±1 dB, 20–20,000 Hz. Extremely low level of intermodulation distortion over entire range and at any power level. **Type "C"** upright shell mounting for all units. Shipping Weight, 6.5 lbs. Size: 3⅞" w. x 4¼" d. x 4¼" h.

Stancor No.	Pri. Imp. Ohms	Sec. Imp. Ohms	Audio Watts	Max. Pri. mADC	Net Each, Quantities of 1-9	10-24	25-49	50-99
A-8053	5000 CT	16/8	50	150	$20.00	$18.00	$16.20	$15.00
A-8056	6600 CT	16/8	50	125	21.67	19.50	17.55	16.25
A-8072	7600 CT*	16/8/4	25	100	23.34	21.01	18.91	17.51

*Has screen grid taps on primary.

UNIVERSAL SILICON OR SELENIUM RECTIFIER TRANSFORMERS

Primary 117 VAC, 50/60 Hz. Mounting type NV with solder lug termination.

Stancor No.	Approx. Applied VAC Under Load	Max. DC Output Resistive or Induct. Load Volts	Amps	Capacitive Load Volts	Amps	Filter Capacitor, μF	Net Each, Quantities of 1-9	10-24	25-49	50-99
RT-201*	11.7–29.4	11.2	2.0	13.8	2.0	1000	$ 8.67	$ 7.80	$ 7.02	$ 6.50
RT-201†	11.1–28.5	23.0	1.25	30.0	1.25	5000	8.67	7.80	7.02	6.50
RT-202*	12.0–29.8	11.1	4.0	14.7	4.0	2000	11.00	9.90	8.91	8.25
RT-202†	12.0–29.8	24.3	2.0	33.0	2.0	1000	11.00	9.90	8.91	8.25
RT-204*	11.7–29.2	12.0	8.0	14.5	8.0	4000	15.67	14.10	12.69	11.75
RT-204†	11.6–29.2	24.0	4.0	32.4	4.0	2000	15.67	14.10	12.69	11.75
RT-206*	12.0–29.7	11.5	12.0	14.4	12.0	6000	21.17	19.05	17.15	15.88
RT-206†	12.0–29.7	24.0	6.0	32.0	6.0	3000	21.17	19.05	17.15	15.88
RT-208*	12.1–29.2	11.4	15.0	14.8	15.0	7500	30.01	27.01	24.31	22.51
RT-208†	12.1–29.2	23.7	8.0	32.5	8.0	4000	30.01	27.01	24.31	22.51
RT-2012*	12.2–29.0	11.4	22.5	14.3	22.5	12000	45.26	40.73	36.66	33.95
RT-2012†	12.2–29.0	23.5	12.0	33.0	12.0	6000	45.26	40.73	36.66	33.95
RT-400*	23.5–60.0	25.0	1.0	34.0	1.0	1500	10.00	9.00	8.10	7.50
RT-400†	23.5–60.0	53.0	0.5	74.0	0.5	600	10.00	9.00	8.10	7.50
RT-401*	24.0–59.0	25.0	2.0	34.0	2.0	2500	12.84	11.56	10.40	9.63
RT-401†	24.0–59.0	52.5	1.0	73.5	1.0	1500	12.84	11.56	10.40	9.63
RT-402*	23.0–58.0	25.0	4.0	33.5	4.0	3000	17.09	15.38	13.84	12.82
RT-402†	23.0–58.0	51.5	2.0	72.5	2.0	1500	17.09	15.38	13.84	12.82
RT-408†	25.0–53.5	44.0	8.0	63.0	8.0	4000	74.01	66.61	59.95	55.51
RT-4012†	25.0–53.0	43.5	12.0	60.0	12.0	6000	98.69	88.82	79.94	74.02

*CT rectifier circuit. †Bridge rectifier circuit.

FOR 100 WS ELECTRONIC PHOTOFLASH

Primary and secondary termination with leads. Primary 105/115/125 V, 60 Hz.

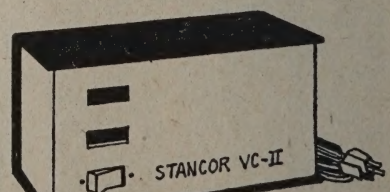
Stancor No.	Plate Windings	Mtg. Type	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-6425	Charges 1050 μF to 450 VDC; ½-wave, 380 VAC plate	S	1.4	$5.50	$4.95	$4.46	$4.13
P-6426	Trigger coil for P-6425; 1:35 ratio*	W	.2	2.25	2.03	1.82	1.69

*Write for Bulletin #470R for circuit details.

MODEL VC-II VOLTAGE CORRECTOR

Designed to eliminate problems in most brown out-voltage drop instances by providing approx. 12% boost to available line voltage. When line voltage drops into the 100-105 V range, a sensing circuit actuates control which increases output of VC-II by 12%. When line voltage returns to 110 V range, additional voltage boost is cut-out. **Rated:** 117 VAC, 60 Hz, 15 A (fused). **Input:** To 130 V, 60 Hz. **Approx. Output (Line Voltage):** Decreasing: Same as input to 105 V; below 105 V, output is 12% higher than input V. Increasing: 12% higher than input to 100 V input; over 110 V, input and output V are identical. **Controls:** On-off rocker switch; green pilot light indicates presence of line voltage; amber pilot light indicates when VC-II is providing voltage boost. Three-wire cord with grounding lead and 3-prong plug; two output receptacles accommodate 2- or 3-wire devices. **Size:** 10" w. x 6" d. x 5¼" h. Weight, 16 lbs.

Stancor Model VC-II—Net Each, 1–99 ..... **$66.00**



ALL PRICES ARE FOR INDIVIDUALLY BOXED UNITS. CALL US FOR BULK-PACKED QUANTITY PRICES.

ESSEX Stancor/RBM — STANCOR Transformers

UNIVERSAL OUTPUT TRANSFORMERS

Termination: Primary, leads except A-3849, A-3880, A-3870; secondary, lugs.

Stancor No.	Impedance, Ohms Primary	Sec.	Watts	Mtg. Type	Net Each, Quantities of 1-9	10-24	25-49	50-99
A-3856*†	4000–14000	.05–122	4	A	$4.42	$3.98	$3.58	$3.32
A-3823*†	4000–14000	.05–122	8	A	5.08	4.57	4.11	3.81
A-3849*	1500–10000	.02–21	10	A	5.00	4.50	4.05	3.75
A-3852†	4000–14000	.05–122	18	S	6.67	6.00	5.40	5.00
A-3830†	3000–10000	.04–122	20	S	6.83	6.15	5.53	5.12

*Single plate. †Push-pull plate.

LINE TO VOICE COIL TRANSFORMERS

Stancor No.	Impedance, Ohms Primary	Sec.	Power Steps in Watts	Mtg. Type	Size, Inches W. x D. x H.	Net Ea., Quantities of 1-9	10-24	25-49	50-99
A-8104	3000/2000/1500/1000/500	4/8/16	10	S	2⅞ x 1¾ x 2⅜	$5.50	$4.95	$4.46	$4.13
A-3883	500	4/6/8/15	25	S	2⅞ x 1¾ x 2⅜	4.50	4.05	3.65	3.38
A-8101	500	3.2/6–8*	5	A	2⅜ x 1⅛ x 1⅜	2.83	2.55	2.29	2.12
A-7947	2000/1500/1000/500	3.2/6–8	8	A	2⅞ x 1⅝ x 1⅝	4.83	4.35	3.91	3.62
A-7949	2000/1500/1000/500	3.2/6–8	12	S	2⅞ x 1¾ x 2⅜	5.25	4.73	4.25	3.94
A-3837	500	.06–48	15	S	2⅞ x 2 x 2⅜	6.42	5.78	5.20	4.82

25-VOLT LINE TO VOICE COIL TRANSFORMERS

A-8096	78/156/312/625/1250	4/8/16	8/4/2/1/0.5	S	2⅜ x 1⅝ x 2	$5.75	$5.18	$4.66	$4.31
A-8097	39/78/156/312/625/1250	4/8/16	16/8/4/2/1/0.5	S	3⅛ x 2¼ x 2¾	6.83	6.15	5.53	5.12
A-8095	125/250/500/1000/2000	4/8	5/2.5/1.25/.62/.31	A	2⅜ x 1½ x 1⅜	4.42	3.98	3.58	3.32
A-8099	312/625/1250	4/8	2/1/0.5	A	2½ x 1⅜ x 1¼	4.17	3.75	3.38	3.13
A-8087*	312/625/1250	8	2/1/0.5	A	2¾ x 1⅝ x 1⅝	3.25	2.93	2.63	2.44
A-8088*	156/312/625/1250/2500/5000	8	4/2/1/.5/.25/.12	A	2⅞ x 1⅝ x 1⅝	4.42	3.98	3.58	3.32

*With leads; all others, lugs.

70.7-VOLT LINE TO VOICE COIL TRANSFORMERS

Stancor No.	Impedance, Ohms Primary	Sec.	Power Steps in Watts	Mtg. Type	Size, Inches W. x D. x H.	Net Ea., Quantities of 1-9	10-24	25-49	50-99
A-8102	625/1250/2500/5000/10,000	4/8/16	8/4/2/1/0.5	S	2⅜ x 1⅝ x 2	$4.58	$4.12	$3.71	$3.44
A-8103	312/625/1250/2500/5000/10,000	4/8/16	16/8/4/2/1/0.5	S	3⅛ x 2¼ x 2¾	6.92	6.23	5.61	5.19
A-8105	1000/2000/4000/8000/16,000	4/8	5/2.5/1.25/.62/.31	A	2⅜ x 1½ x 1⅜	4.50	4.05	3.65	3.38
A-8105A	1000/2000/4000/8000/16,000	4/8	5/2.5/1.25/.62/.31	A	2⅜ x 1½ x 1⅜	3.83	3.45	3.10	2.87
A-8109	2500/5000/10,000	4/8	2/1/0.5	A	2⅛ x 1⅜ x 1¼	4.00	3.60	3.24	3.00
A-8080	1000/1250/1667/2500/5000	8/16	5/4/3/2/1	A	2⅜ x 1½ x 1⅜	4.42	3.98	3.58	3.32
A-8082	333/357/384/417/455	8/16	15/14/13/12/11	S	2⅞ x 1¾ x 2⅜	5.83	5.25	4.72	4.37
A-8081	500/555/625/715/833	8/16	10/9/8/7/6	S	2⅜ x 1⅝ x 2	5.17	4.65	4.19	3.88
A-8083*	2500/5000/10,000	8	2/1/0.5	A	2⅜ x 1⅜ x 1⅜	3.33	3.00	2.70	2.50
A-4781	1000/1250/1667/2500/5000	8	5/4/3/2/1	A	2⅜ x 1½ x 1⅜	5.00	4.50	4.05	3.75
A-4785	625/1250/2500/5000/10,000	8	8/4/2/1/0.5	S	2⅜ x 1⅝ x 2	5.17	4.65	4.19	3.88
A-8076	250/500/1000/2000	4/8/16	20/10/5/2.5	S	2⅞ x 1⅞ x 2⅜	6.00	5.40	4.86	4.50
A-8078	167/250/500/1000	4/8/16	30/20/10/5	S	2⅞ x 1¾ x 2⅜	5.75	5.18	4.66	4.31
A-8079	100/125/200/333	4/8/16	50/40/25/15	S	2⅞ x 2 x 2⅜	5.25	4.73	4.25	3.94

*With leads; all others, lugs.

CATHODE-RAY TUBE POWER TRANSFORMER

For use in half-wave circuits. Primary 117 V, 60 Hz. May be operated from a 400 Hz source with no change in output. Lead termination except P-8179, lug.

Stancor No.	Plate Windings VAC	mADC	Rec. Fil. V	A	Other Winding V	A	Mtg.	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8150	1550	1.5	2.5	1.75	.....	...	SC	3 x2½x3 1/16	$12.00	$10.80	$ 9.72	$ 9.00
P-8179	1600	3.0	...	....	6.3/5/2.5 6.3/5/2.5	1.0 3.0	M	2½x3 x3½	17.67	15.90	14.31	13.25
P-8151	2400	5.0	2.5	2.0	2.5	2.0	C	3 1/16x3 7/8x4¼	19.00	17.10	15.39	14.25

PRINTED CIRCUIT POLYCHROMATRANS

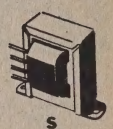
Printed circuit board transistor transformers. Test volts, 500 rms. Color-coded by application. Up to 50% reduction in distortion over other brands. Improved lower-end frequency response. Leads are fatigue resistant gold-plated nickel-iron alloy, .020″ dia., 5/16″ long and have multiples of 0.1″ grid spacing for PC application. Size .410″ w. x .310″ d. x .480″ h.

Stancor No.	Power Level mW	Use	Matching Impedance, Ohms Primary	Secondary	Max. mA DC*	Net Each, Quantities of 1-9	10-24	25-49	50-99
PCT-14	15	Input	200K CT	1K CT	0	$12.09	$10.88	$10.08	$9.43
PCT-17	15	Input	200K	1K	0	11.42	10.28	9.52	8.91
PCT-54	75	Output	600 CT	12	4.5	10.25	9.23	8.55	8.00
PCT-76	75	Output Isolation	10K CT	10K CT	1	11.17	10.05	9.31	8.71
PCT-77	75	Output Isolation	600 CT	600 CT	3	9.84	8.85	8.20	7.67

*Unbalanced in primary.

No. SPCT-10—Magnetic alloy shield for all PCT transformers. Net Each, Quantities of 1–9.....**$1.92**
Net Each, Quantities of 10–24.....**$1.73**; 25–49.....**$1.56**; 50–99..... **1.44**

A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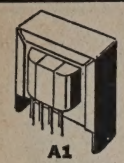
ALL PRICES ARE FOR INDIVIDUALLY BOXED UNITS. CALL US FOR BULK-PACKED QUANTITY PRICES.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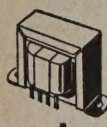
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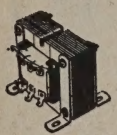
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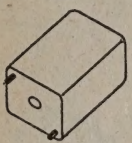
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MINIATURE TRANSISTOR AUDIO TRANSFORMERS

.150 Watt Group—Dimensions: 1 3/16" w. x 5/8" d. x 2 1/32" h. Mtg. tabs 2 5/32" centers, 3/16" w. Weight, 0.65 oz. Mtg. Type A1.

Stancor No.	Application	Impedance, Ohms Primary	Impedance, Ohms Secondary	DC Resis., Ohms Primary	DC Resis., Ohms Secondary	Net Each, Quantities of 1-9	10-24	25-49	50-99
TA-18	Input	30 CT	50,000	14.7	4060	$7.00	$6.30	$5.67	$5.25
TA-19	Interstage	100 CT	10 CT	19	1.27	3.92	3.53	3.18	2.94
TA-20	Output	350 CT	4, 12	38	1.45	5.00	4.50	4.05	3.75
TA-21	Output	500 CT	4, 8, 16	75.3	3.55	5.17	4.65	4.19	3.88
TA-22	Interstage	500 CT	50	59.7	7.9	4.58	4.12	3.71	3.44
TA-23	Output	600 CT	4, 8, 16	73.2	3.2	5.08	4.57	4.11	3.81
TA-24	Interstage	500 CT	50,000	76.8	5135	4.58	4.12	3.71	3.44
TA-25	Output	825 CT	4, 8, 16	74	2.7	5.00	4.50	4.05	3.75
TA-26	Output	1,250	4, 12	132.5	1.4	4.33	3.90	3.51	3.25
TA-27	Interstage	1,200	20,000 CT	142	1860	5.42	4.88	4.39	4.07
TA-28	Interstage	1,500	500 CT	104	46.5	5.33	4.80	4.32	4.00
TA-29	Output	2,500	4, 16	370	2.3	4.83	4.35	3.91	3.62
TA-30	Interstage	5,000 CT	7,500 CT	650	790	5.17	4.65	4.19	3.88
TA-31	Interstage	5,000 CT	10,000 CT	635	825	5.00	4.50	4.05	3.75
TA-32	Interstage	5,000 CT	80,000 CT	500	5200	5.42	4.88	4.39	4.07
TA-33	Output	10,000 CT	4, 8, 16	1174	2.6	4.50	4.05	3.65	3.38
TA-34	Interstage	10,000	200 CT	1200	25.0	4.00	3.60	3.24	3.00
TA-35	Interstage	10,000	2,000 CT	1200	257	4.83	4.35	3.91	3.62
TA-36	Interstage	10,000	3,000 CT	1200	385	4.83	4.35	3.91	3.62
TA-37	Output	400 CT	11	71.5	1.5	6.75	6.08	5.47	5.06
TA-38	Interstage	500 CT	150 CT	62	21.2	4.75	4.28	3.85	3.56
TA-54	Interstage	20,000	800 CT	1350	95	4.58	4.12	3.71	3.44

.300 Watt Group—Dimensions: 1 5/8" w. x 3/4" d. x 1 3/16" h. Mtg. centers, 1 3/8". Weight, 1.2 oz. Mtg. Type A.

TA-39	Output	100 CT	4, 8, 16	10.9	1.45	$4.83	$4.35	$3.91	$3.62
TA-40	Output	160	4, 8, 16	18.7	1.4	4.83	4.35	3.91	3.62
TA-41	Output	400 CT	4, 8, 16	34	1.5	4.58	4.12	3.71	3.44
TA-42	Output	500 CT	4, 8, 16	47	.85	5.17	4.65	4.19	3.88
TA-43	Output	700 CT	4, 8, 16	77	1.15	4.50	4.05	3.65	3.38
TA-44	Output	2,500	4, 8, 16	172	1.15	5.08	4.57	4.11	3.81
TA-45	Output	3,000	4, 8, 16	192	1.2	5.00	4.50	4.05	3.75
TA-46	Interstage	100,000	1,500 CT	3250	143	5.25	4.73	4.25	3.94
TA-47	Input	1,000 CT	200,000 CT	123	1815	5.33	4.80	4.32	4.00
TA-52	Interstage	500 CT	500 CT	40	55	5.17	4.65	4.19	3.88
TA-55	Input	500,000	200 CT	12000	18	7.17	6.45	5.81	5.38
TA-63	Driver	20,000 CT	2,000 CT	2140	325	6.00	5.40	4.86	4.50

MINATURE TRANSISTOR AUDIO TRANSFORMERS FOR PRINTED CIRCUITS

.150 Watt Group—Dimensions: 1 3/16" w. x .65" d. x 3/4" h. Mtg. Type B.

Stancor No.	Application	Impedance, Ohms Primary	Impedance, Ohms Secondary	DC Resis., Ohms Primary	DC Resis., Ohms Secondary	Net Each, Quantities of 1-9	10-24	25-49	50-99
TAPC-28	Interstage	1,500	500 CT	104	46.5	$6.00	$5.40	$4.86	$4.50
TAPC-31	Interstage	5,000 CT	10,000 CT	635	825	5.00	4.50	4.05	3.75
TAPC-32	Interstage	5,000 CT	80,000 CT	500	5200	5.00	4.50	4.05	3.75
TAPC-34	Interstage	10,000	200 CT	1200	25	4.58	4.12	3.71	3.44
TAPC-35	Interstage	10,000	2,000 CT	1200	257	3.75	3.38	3.04	2.81
TAPC-36	Interstage	10,000	3,000 CT	1200	385	6.00	5.40	4.86	4.50
TAPC-38	Interstage	500 CT	150 CT	62	21.2	4.17	3.75	3.38	3.13

.300 Watt Group—Dimensions: 1 1/32" w. x 1" d. x 7/8" h. Mtg. Type B.

TAPC-47	Input	1,000 CT	200,000 CT	123	1815	$5.25	$4.73	$4.25	$3.94
TAPC-52	Interstage	500 CT	500 CT	40	55	5.42	4.88	4.39	4.07
TAPC-63	Driver	20,000 CT	2,000 CT	2140	325	5.17	4.65	4.19	3.88

TRANSISTOR AUDIO TRANSFORMERS

Special transformers for transistor applications. Mtg. Types: TA-56, TA-57 and TA-61, S; TA-13, SC; TA-60, TS; all others, Mtg. Type A.

Stancor Number	Impedance, Ohms Pri.	Impedance, Ohms Sec.	DC Res., Ohms Pri.	DC Res., Ohms Sec.	Max. Pri. mADC	Watts	Net Each, Quantities of 1-9	10-24	25-49	50-99
TA-1*	600 CT	10	42	.8	20	.05	$4.50	$4.05	$3.65	$3.38
TA-2†	100 CT	10 CT	4.3	.8	100	.25	3.00	2.70	2.43	2.25
TA-3†	100	1000 CT	5.8	45	100	.25	3.17	2.85	2.57	2.38
TA-4†	500 CT	5000 CT	37	250	12	.03	4.25	3.83	3.44	3.19
TA-5‡	1000	200 CT	400	115	10	.05	5.33	4.80	4.32	4.00
TA-6‡	2000	200 CT	720	115	5	.05	5.42	4.88	4.39	4.07
TA-7‡	100	100 CT	12	12	100	.5	3.75	3.38	3.04	2.81
TA-9§	1000	4/8/16	180	3.5	10	.2	5.17	4.65	4.19	3.88
TA-10§	2000 CT	4/8/16	250	4	.....	.2	7.83	7.05	6.34	5.87
TA-11§	48 CT	8/16	5	1.5	275	5	5.33	4.80	4.32	4.00
TA-12§	20 CT	8	.55	.35	500	10	3.67	3.30	2.97	2.75
TA-13‡	200 CT	400 CT	4	7	10	.6	8.67	7.80	7.02	6.50
TA-56§#	48 CT	3.2/8/16	3.6	1.4	550	10	4.58	4.12	3.71	3.44
TA-57§	100 CT	3.2/8/16	6.6	1.5	500	10	4.58	4.12	3.71	3.44
TA-58‡	100	200 CT	6.5	15.5	200	.5	3.33	3.00	2.70	2.50
TA-59‡	500 CT	200 CT	36.5	15.5	50	.5	3.83	3.45	3.10	2.87
TA-60§	125 CT	8	7.5	0.9	50	1.5	7.17	6.45	5.81	5.38
TA-61‡	•	•	1.8	1.8	.....	.....	3.33	3.00	2.70	2.50
TA-62§	25	4	1.5	0.4	400	4	2.83	2.55	2.29	2.12

*Input. †Interstage. ‡Driver. §Output. #Has lugs on secondary. •Trifilar wound ratio, 1:1:1.

TRANSISTOR POWER SUPPLY TRANSFORMERS

For transistor power supplies. Primary 117 VAC, 60 Hz. May be operated from a 400 Hz source with no change in output ratings. Lead wire termination. For rectifier circuits, for P-8193, P-8194, showing DC voltages and allowable DC current, write for Stancor Bulletin No. 587.

Stancor No.	Secondary No. 1 V	Secondary No. 1 A‡	Secondary No. 2 V	Secondary No. 2 A‡	Size, Inches W. x D. x H.	Mtg. Type	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8604#	20 CT	1.0	.....	.....	3 1/4 x 2 1/8 x 2	A	$ 3.92	$ 3.53	$ 3.18	$ 2.94
P-8614#	30	3.0	.....	.....	2 13/16 x 3 5/8 x 3 1/2	C	8.75	7.88	7.09	6.56
P-8621†	24/26/28/30	15.0*	.....	.....	4 1/2 x 5 1/2 x 3 13/16	NH	33.34	30.01	27.01	25.01
P-8623§	18/20/22	2.0*	.....	.....	3 5/8 x 2 1/4 x 3 1/8	S	6.75	6.08	5.47	5.06
P-8197	50 CT	1.0	.....	.....	2 1/2 x 2 11/16 x 3 1/8	C	8.00	7.20	6.48	6.00
P-8198	54 CT	.5	6.3	.5	2 5/16 x 2 9/16 x 2 5/8	C	6.50	5.85	5.27	4.88
P-8193	17/18	6.0	.....	.....	3 1/8 x 3 1/8 x 3 13/16	NV	15.17	13.65	12.29	11.38
P-8194	36	3.0	36	3.0	3 3/4 x 3 3/4 x 4 9/16	NV	23.34	21.01	18.91	17.51
P-8196	80 CT	1.5	.....	.....	2 13/16 x 3 5/8 x 3 1/2	C	10.00	9.00	8.10	7.50

*Secondary is one tapped winding. †Secondary leads have lugs attached. ‡rms. §Solder lug termination. #May be operated from 117 V, 50/60 Hz at full rated load.

POWER TRANSFORMERS FOR CAPACITOR INPUT SYSTEMS

Primary 117 V, 60 Hz; may be operated from a 400 Hz source with no change in output. Meets EIA requirements for electrical tolerances, dielectric strength, temperature rise and construction. Operating temperature 105° C max. All secondary AC voltages ±3%.

Stancor No.	Plate Windings AC V	Plate Windings mA DC	Rectifier Filament V	Rectifier Filament A	Other Windings V	Other Windings A	Base Area, Inches	Mtg. Type	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8379	115§	290	.....	...	2.7/6.3	.45/8.0	3 7/16 x 2 13/16	M*	5.7	$16.92	$15.23	$13.71	$12.69
P-8386	117§	300	.....	...	6.3	10.0	4 x 3 3/4	C4*	6.9	15.00	13.50	12.15	11.25
P-6146	120-0-120	250	5.0	3.0	.....	.....	3 1/4 x 3 1/8	C	4.2	13.59	12.23	11.01	10.19
PS-8415	125#	15	.....	...	6.3	.6	2 3/8 x 1 3/8	S	.7	4.00	3.60	3.24	3.00
P-8624	125#	15	.....	...	12.6	.3	2 3/8 x 1 3/8	S	.7	3.58	3.22	2.90	2.69
PS-8416	125-0-125	25	.....	...	6.3	1.0	2 13/16 x 1 3/4	S	1.0	4.67	4.20	3.78	3.50
P-8625	125-0-125	25	.....	...	12.6	.6	2 13/16 x 1 3/4	S	1.0	4.67	4.20	3.78	3.50
PA-8421	125#	50	.....	...	6.3	2.0	3 1/16 x 2 1/8	A	1.5	5.50	4.95	4.46	4.13
P-8626	125#	50	.....	...	12.6	1.0	3 1/16 x 2 1/8	A	1.5	5.58	5.02	4.52	4.19
P-8181	150#	25	.....	...	6.3 CT	.5	2 3/8 x 1 13/16	VE	.8	5.17	4.65	4.19	3.88
P-8627	150#	25	.....	...	12.6 CT	.3	2 3/8 x 1 13/16	VE	.8	5.25	4.73	4.25	3.94
P-8359	190-160-0 160-190	70	.....	...	6.3 CT/ 6.3	3.0/.6	2 5/8 x 2 1/2	C	2.8	10.84	9.76	8.78	8.13
P-8383	200-0-200	110	.....	...	6.3/6.3 CT	2.0/4.0	3 1/4 x 2 1/2	C	3.0	11.67	10.50	9.45	8.75
PC-8417	220-0-220	50	.....	...	6.3/25.2	.6/.5	2 5/8 x 2 1/2	C	2.2	8.75	7.88	7.09	6.56
PC-8418	230-0-230	50	.....	...	6.3	2.5	2 5/8 x 2 1/2	C	2.2	7.75	6.98	6.28	5.81
PM-8418	230-0-230	50	.....	...	6.3	2.5	3 x 2 1/2	M	2.2	8.00	7.20	6.48	6.00
PC-8401	235-0-235	40	5.0	2.0	6.3 CT	2.0	2 5/8 x 2 1/2	C	2.2	9.42	8.48	7.63	7.07
PC-8402	240-0-240	55	5.0	2.0	6.3 CT	2.0	2 3/4 x 2 1/2	C	2.4	9.17	8.25	7.43	6.88
PC-8419	240-0-240	70	.....	...	6.3	3.0	2 7/8 x 2 1/2	C	2.6	8.67	7.80	7.02	6.50
P-8173	250-0-250	10	.....	...	6.3/6.3	.6/1.2	2 1/4 x 2 7/8	C1	1.0	7.25	6.53	5.87	5.44
PC-8403	250-0-250	70	5.0	2.0	6.3 CT	2.5	3 1/2 x 2 1/2	C	3.2	10.17	9.15	8.24	7.63
PC-8404	260-0-260	90	5.0	2.0	6.3 CT	3.0	3 1/2 x 2 13/16	C	4.0	10.84	9.76	8.78	8.13
PC-8420	260-0-260	90	.....	...	6.3	4.0	3 1/4 x 2 13/16	C	3.5	9.17	8.25	7.43	6.88
PC-8405	270-0-270	120	5.0	3.0	6.3 CT	3.5	3 1/2 x 3 1/8	C	4.9	12.09	10.88	9.79	9.07
P-8356	270-0-270	260	5.0	3.0	6.3	8.8	3 5/8 x 3 1/8	C*	6.5	19.00	17.10	15.39	14.25
P-8377	270-0-270	280	5.0	3.0	6.3	10.0	3 15/16 x 3 1/8	M*	6.7	21.00	18.90	17.01	15.75
P-8373	280-0-280	280	5.0	3.0	6.3/24.0	10.0/2.6	3 3/4 x 3 1/8	M	8.0	22.59	20.33	18.30	16.94
P-8378	280-0-280 250-0-250	300	5.0/3.0	4.5	6.3/24.0	10.0/1.2	4 5/8 x 3 1/8	C*	7.9	24.67	22.20	19.98	18.50
P-8355	285-0-285	250	5.0	3.0	6.3	9.5	3 1/2 x 3 3/4	C4*	6.5	19.59	17.63	15.87	14.69
P-6358	300-0-300	65	.....	...	6.3 CT	2.7	2 1/2 x 2 1/2	C	3.0	9.17	8.25	7.43	6.88
P-8175	300-0-300	70	5.0	3.0	6.3 CT	3.0	3 1/2 x 2 7/8	C	4.0	18.75	16.88	15.19	14.06
P-8177	300-0-300	120	5.0	3.0	6.3 CT	3.0	3 5/8 x 3 3/16	C	5.8	16.84	15.16	13.64	12.63
PC-8406	325-0-325	40	5.0	2.0	6.3 CT	2.0	2 3/4 x 2 1/2	C	2.4	9.34	8.41	7.57	7.01
PC-8407	325-0-325	55	5.0	2.0	6.3 CT	2.0	3 1/8 x 2 1/2	C	3.2	9.59	8.63	7.77	7.19
PC-8422	325-0-325	150	5.0	3.0	6.3 CT	5.0	3 7/8 x 3 1/8	C	5.8	15.42	13.88	12.49	11.57
P-8339	325-0-325	255	5.0	3.0	12.6 CT	5.25	4 3/8 x 3 3/4	C	8.5	20.00	18.00	16.20	15.00
PC-8408	340-0-340	70	5.0	2.0	6.3 CT	2.5	3 3/8 x 2 13/16	C	3.8	11.75	10.58	9.52	8.81
P-6011	350-0-350	70	5.0 CT	3.0	6.3 CT	2.5	3 x 2 1/2	M	3.5	15.42	13.88	12.49	11.57
PC-8409	350-0-350	90	5.0	2.0	6.3 CT	3.0	3 5/8 x 2 13/16	C	4.5	12.92	11.63	10.47	9.69
P-8176	350-0-350	110	5.0	2.0	6.3 CT 6.3 CT	3.0 3.0	3 1/8 x 3 1/4	C	5.5	27.76	24.98	22.49	20.82
P-8345	350-0-350	215	5.0	3.0	6.3/6.3	9.0/1.2	4 9/16 x 3 3/4	M*	11.5	18.34	16.51	14.86	13.76
PC-8410	360-0-360	120	5.0	3.0	6.3 CT	3.5	3 3/4 x 3 1/8	C	5.5	14.17	12.75	11.48	10.63
P-6315	370-0-370	275	5.0 CT	3.0	6.3 CT	7.0	4 1/2 x 3 3/4	M	9.3	23.84	21.46	19.31	17.88
PC-8411	375-0-375	150	5.0	3.0	6.3 CT	4.5	4 x 3 7/16	C	5.8	16.59	14.93	13.44	12.44
PC-8412	400-0-400	200	5.0	3.0	6.3 CT	5.0	4 x 3 3/4	C	8.2	18.84	16.96	15.26	14.13
PC-8413	400-0-400	250	5.0	4.0	6.3 CT	5.0	4 1/2 x 3 3/4	C	10.0	21.17	19.05	17.15	15.88
PC-8414	600-0-600	200	5.0	3.0	6.3/6.3	3.0/3.0	4 1/4 x 3 3/4	C	8.3	22.92	20.63	18.57	17.19

*With copper shorting band to reduce external magnetic field. §For voltage doubler circuits. #For half-wave circuits.

ISOLATION TRANSFORMERS

Electrostatic shields grounded to core. Primary 50/60 Hz, line cord. May be operated from a 400 Hz source with no change in output.

STRAIGHT ISOLATION

Secondary female receptacle, except P-6411, P6411A, P-6412, P-6413 and P-8622 have lead wires.

Stancor No.	Cap. VA	Voltage Input	Voltage Output	Mtg. Type	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-6413	0.6	115	115	A	2 1/8 x 1 1/4 x 1 1/4	$ 2.92	$ 2.63	$ 2.37	$ 2.19
P-6411	15	115	115	A	3 1/4 x 1 7/8 x 2	4.67	4.20	3.78	3.50
P-6411A	15	115	115	HE	3 1/4 x 1 7/8 x 2	5.17	4.65	4.19	3.88
P-6412	35	115	115	A	3 3/4 x 2 x 2 3/8	5.83	5.25	4.72	4.37
P-6410	50	115	115	C	2 13/16 x 3 1/8 x 3 1/2	12.09	10.88	9.79	9.07
P-6160*	100	105/115/125	115	C	3 3/4 x 3 3/4 x 4 11/16	25.01	22.51	20.26	18.76
P-8622	150	115‡	115/230#	C	3 1/8 x 4 x 3 7/8	14.34	12.91	11.62	10.76
P-6371	175	117	117	SC	5 1/4 x 4 9/16 x 5 5/16	33.17	29.85	26.87	24.88
P-6161*	250	105/115/125	115	C	3 3/4 x 5 1/2 x 4 11/16	30.84	27.76	24.98	23.13
P-6298*	500	105/115/125	115	FS	5 5/8 x 7 1/4 x 7 5/8	91.69	82.52	74.27	68.77
P-6125†	1000	105/115/125	115	FS	5 5/8 x 7 3/4 x 7 5/8	141.70	127.53	114.78	106.28
P-6123†	1500	104/115/125	115	FS	5 5/8 x 9 x 7 5/8	206.71	186.04	167.44	155.03

STEP-DOWN ISOLATION

Secondary female receptacle. P-6406 has lead wires.

P-6406	50	115/230‡§	115	A	3 3/4 x 2 5/16 x 2 3/8	$ 6.67	$ 6.00	$ 5.40	$ 5.00
P-6383*	100	210/230/250	115	C	3 3/4 x 3 3/4 x 4 11/16	25.01	22.51	20.26	18.76
P-6385*	250	210/230/250	115	C	5 1/2 x 3 3/4 x 4 11/16	32.51	29.26	26.33	24.38
P-6387*	500	210/230/250	115	FS	7 1/8 x 5 5/8 x 7 3/4	94.19	84.77	76.29	70.64

*Has primary switch. †Has primary terminals. ‡Has electrostatic shield. §Primary is two separate windings. #Secondary is two separate 115 windings.

ISOLATION TESTING

Secondary three female receptacles.

P-6415	350	117	105/115/125	C	5 13/16 x 4 5/8 x 5 1/2	$38.51	$34.66	$31.19	$28.88

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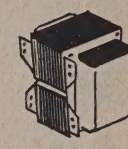
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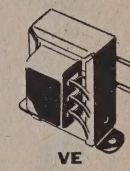
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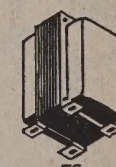
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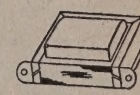
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ALL PRICES ARE FOR INDIVIDUALLY BOXED UNITS. CALL US FOR BULK-PACKED QUANTITY PRICES.

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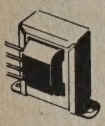
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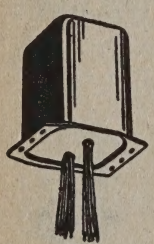
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SINGLE SECONDARY FILAMENT TRANSFORMERS

All primaries 50/60 Hz. May be operated from a 400 Hz source with no change in output rating. All secondary voltages ±3%. Insulation test voltage is twice allowable rms working voltage plus 1000 volts.

Stancor No.	Secondary V		Secondary A	Insul. Test V rms	Pri. V	Termination Pri.	Termination Sec.	Mtg.	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8628	2.5	CT	0.3	1500	117	Leads	Leads	A	2⅛ x1⅝ x1¼	$ 2.67	$ 2.40	$ 2.16	$ 2.00
P-8629	2.5		1.0	1500	117	Leads	Leads	A	2⅜ x1⅜ x1⅜	2.75	2.48	2.23	2.06
P-4026	2.5		1.5	2500	117	Leads	Leads	A	2⅞ x1⅝ x1⅝	3.75	3.38	3.04	2.81
P-6133*	2.5	CT	5.0	7500	117	Leads	Leads	S	3⅛ x2¼ x2¾	6.75	6.08	5.47	5.06
P-3024*	2.5	CT	10.0	2500	117/107	Leads	Leads	C	2½ x2¾ x3⅛	8.67	7.80	7.02	6.50
P-6454	2.5	CT	10.0	7500	117/107	Leads	Leads	S	3⅜ x2½ x3⅛	6.17	5.55	5.00	4.63
P-3060	2.5	CT	10.0	10000	117	Lugs	Lugs	NV	2Ⅼ x2⅜x3⅞	10.67	9.60	8.64	8.00
P-3026*	5.0	CT	3.0	2500	117/107	Leads	Leads	C	2½ x2⅝ x3⅛	8.34	7.51	6.76	6.26
P-6467	5.0	CT	3.0	2500	117	Leads	Leads	A	3¼ x2⅛ x2	4.42	3.98	3.58	3.32
P-6455	5.0	CT	6.0	2000	117/107	Leads	Leads	S	3⅛ x2⅛ x2¾	5.75	5.18	4.66	4.31
P-3062*	5.0	CT	6.0	2500	117	Lugs	Lugs	NV	2½ x2¼ x3⅛	7.08	6.37	5.73	5.31
P-5000*	5.0	CT	6.0	2500	117/107	Leads	Leads	C	2½ x3 x3⅛	10.00	9.00	8.10	7.50
P-6135	5.0	CT	10.0	2500	117	Leads	Leads	NV	2½ x2¾ x3⅛	8.50	7.65	6.89	6.38
P-6433*	5.0	CT	15.0	2500	117	Leads	Leads	NV	2½ x2¾ x3⅛	10.84	9.76	8.78	8.13
F-516	5.0	CT	20.0	2500	115/230	Terms	Terms	SC	4⅞6 x3¹⅛x4¹⅛	34.17	30.75	27.68	25.63
P-6492	5.0	CT	30.0	2500	117	Leads	Leads	C	3¾ x4 x4¹⅛	18.75	16.88	15.19	14.06
P-6468*	5.0	CT	30.0	2500	117/107	Lugs	Lugs	C	3⅞6 x3⅞ x4¼	22.50	20.25	18.23	16.88
P-8385	6.3	CT	0.3	1500	117	Leads	Leads	A	2⅛ x1⅜ x1¼	3.17	2.85	2.57	2.38
P-6465	6.3	CT	0.6	1500	117	Leads	Leads	A	2⅜ x1½ x1⅝	3.33	3.00	2.70	2.50
P-8705	6.3	CT	0.6	1500	230	Leads	Leads	A	2⅜ x1½ x1⅜	3.17	2.85	2.57	2.38
P-8389	6.3		1.0	1500	117	Leads	Leads	A	2⅞ x1½ x1⅝	3.25	2.93	2.63	2.44
P-6134	6.3	CT	1.2	3000	117	Leads	Leads	A	2⅞ x1⅞ x1⅝	3.25	2.93	2.63	2.44
P-8190	6.3		1.2	5000	117	Leads	Leads	A	3¼ x1⅞ x2	4.58	4.12	3.71	3.44
P-8191	6.3		1.2	5000	6.3	Leads	Leads	A	3¼ x2 x2	4.58	4.12	3.71	3.44
F-615*	6.3	CT	1.5	2500	115/230	Lugs	Lugs	SC	2¹⅛x2¼ x2¹⅛	15.84	14.26	12.83	11.88
P-5014*	6.3	CT	3.0	2500	117	Lugs	Lugs	NV	2½ x2½ x3⅛	7.00	6.30	5.67	5.25
P-6466	6.3	CT	3.0	2500	117	Leads	Leads	A	3¼ x2⅛ x2	4.75	4.28	3.85	3.56
P-6462	6.3		3.0	7000	117/107	Leads	Leads	S	3⅞ x2⅜ x3⅛	6.33	5.70	5.13	4.75
P-4019*	6.3	CT	4.0	2500	117/107	Leads	Leads	C	2½ x2¾ x3⅛	8.84	7.96	7.16	6.63
P-3064*	6.3	CT	6.0	2500	117	Lugs	Lugs	NV	2½ x2⅜ x3⅛	8.17	7.35	6.62	6.13
P-4089	6.3	CT	6.0	2500	117/107	Leads	Leads	C	2Ⅼ x3¼x3½	10.59	9.53	8.58	7.94
P-6456	6.3	CT	6.0	2000	117/107	Leads	Leads	A	3¾ x2⅜ x2⅝	6.92	6.23	5.61	5.19
P-6464	6.3	CT	10.0	2000	117	Leads	Leads	C	2Ⅼ x3¼x3½	9.67	8.70	7.83	7.25
P-6308*	6.3	CT	10.0	2500	117/107	Leads	Leads	NV	2Ⅼ x2⅝x3⅞	11.00	9.90	8.91	8.25
F-610	6.3	CT	10.0	2500	115/230	Terms	Terms	SC	4 x3¼ x4¼	33.09	29.78	26.80	24.82
P-8189	6.3	CT	20.0	2500	117	Leads	Leads	C	3⅛ x4¼ x3⅞	13.59	12.23	11.01	10.19
P-6309	6.3	CT	20.0	2500	117/107	Leads	Leads	NV	3¾ x3⅜ x4⅜6	15.00	13.50	12.15	11.25
P-5015*	7.5	CT	4.0	2500	117	Lugs	Lugs	NV	2½ x2¼ x3⅛	9.17	8.25	7.43	6.88
P-6138*	7.5	CT	8.0	2500	117	Leads	Leads	NV	3⅛ x2¾ x3Ⅼ	11.50	10.35	9.32	8.63
P-6457	7.5	CT	21.0	2000	117/107	Leads	Leads	C	3¾ x4 x4⅝	20.50	18.45	16.61	15.38
P-8380	10.0	CT	3.0	1500	117	Leads	Leads	A	3¾ x2¼ x2⅜	5.42	4.88	4.39	4.07
P-5016*	10.0	CT	4.0	2500	117	Lugs	Lugs	NV	2Ⅼ x2½x3⅞6	9.34	8.41	7.57	7.01
P-6458	10.0	CT	5.0	2000	117/107	Leads	Leads	NV	2½ x2½ x3⅛6	8.67	7.80	7.02	6.50
P-6139*	10.0	CT	8.0	2500	117	Leads	Leads	NV	3⅛ x3 x3Ⅼ	10.84	9.76	8.78	8.13
P-4097*	10.0	CT	8.0	2500	117/107	Leads	Leads	C	3⅛ x3¾ x3⅞	12.67	11.40	10.26	9.50
P-6461	10.0	CT	10.0	2000	117	Leads	Leads	C	3¼ x3⅜6 x3⅞	13.50	12.15	10.94	10.13
P-8384	12.6	CT	1.0	1500	117	Leads	Leads	A	3¼ x1¾ x2	4.08	3.67	3.30	3.06
P-8130	12.6	CT	2.0	1500	117	Leads	Leads	A	3¼ x2⅛ x2	4.42	3.98	3.58	3.32
P-8715	12.6	CT	2.0	1500	230	Leads	Leads	A	3¼ x2½ x2	4.67	4.20	3.78	3.50
P-8358	12.6	CT	3.0	1500	117	Leads	Leads	A	3¾ x2¼ x2⅜	5.00	4.50	4.05	3.75
P-8641	12.6	CT	4.0	1500	117	Leads	Leads	A	4 x2⅜ x2⅝	6.50	5.85	5.27	4.88
P-8642	12.6	CT	6.0	1500	117	Leads	Leads	C	2¹⅜6x3⅜ x2¹⅜6	10.84	9.76	8.78	8.13
P-8643	12.6	CT	8.0	1500	117	Leads	Leads	C	3⅛ x3⅝ x3⅞	13.59	12.23	11.01	10.19
P-8644	12.6	CT	10.0	1500	117	Leads	Leads	C	3⅞6 x3⅞ x4¼	14.42	12.98	11.68	10.82
P-8716	12.6	CT	4.0	2500	230	Leads	Leads	A	4 x2⅜ x2⅝	6.58	5.92	5.33	4.94
P-6469	25.2		1.0	1500	117	Leads	Leads	A	3¼ x2⅛ x2	4.17	3.75	3.38	3.13
P-8707	25.2		1.0	1500	230	Leads	Leads	A	3¼ x2⅛ x2	4.00	3.60	3.24	3.00
P-8180	25.2	CT	1.0	1500	117	Leads	Leads	A	3¼ x2⅛ x2	4.08	3.67	3.30	3.06
P-8180B	25.2	CT	1.0	1500	117•	Leads	Leads	HE	3¼ x2⅜ x2	5.00	4.50	4.05	3.75
P-8357	25.2	CT	2.0	1500	117	Leads	Leads	A	4 x2¼ x2⅝	6.33	5.70	5.13	4.75
P-8388	25.2	CT	2.8	1500	117	Leads	Leads	A	4 x2¼ x2⅝	8.00	7.20	6.48	6.00
P-8645	25.2	CT	50	1500	117	Leads	Leads	C	3⅞6 x3⅞ x4¼	13.50	12.15	10.94	10.13
P-8646	25.2	CT	7.5	1500	117	Leads	Leads	C	3½ x4¼ x4¼	15.75	14.18	12.76	11.81
P-8647	25.2	CT	10.0	1500	117	Leads	Leads	C	3¾ x5 x4¹⅛6	21.67	19.50	17.55	16.25
P-8608	26.5	CT	.6	2500	117	Leads	Leads	A	3¼ x2⅛ x2	4.42	3.98	3.58	3.32
P-8609	26.8	CT	1.0	1500	117	Leads	Leads	A	3¼ x2⅛ x2	4.17	3.75	3.38	3.13
P-8606	26.0	CT†	.04	2500	117‡	Leads	Leads	A	2⅛ x1⅜ x1¼	6.00	5.40	4.86	4.50
P-8607	26.0	CT†	.25	2500	117‡	Leads	Leads	A	2⅛ x1¾ x1⅝	6.00	5.40	4.86	4.50
P-8605	48.0	CT†	1.0	2500	117§	Leads	Leads	A	4 x2⅜ x2⅝	8.17	7.35	6.62	6.13
P-8650*	12.0		6.5	1500	117▲	■	Recp.	C	2¹⅜6x3⅜ x3½	12.67	11.40	10.26	9.50

*Has electrostatic shield. †Nominal. ‡Primary tapped to provide secondary voltages of: 24.5 CT or 27.5 CT or 29 CT; §45 CT or 51 CT or 54 CT. •Has built-in energy limiting fuse link. ▲Case and core are connected internally to third wire in line cord and output receptacle. ■Cord/plug.

MULTIPLE SECONDARY FILAMENT TRANSFORMERS

Primary 117 V, 50/60 Hz. May be operated from a 400 Hz source with no change in output rating. All secondary voltages ±3%. Insulation test voltage (2500 V rms) is twice allowable rms working voltage plus 1000 volts. Mounting C; lead terminations.

Stancor No.	Secondary Volts	Secondary Amps	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-6428*	6.3, 6.3, 6.3, 6.3†	1.75, 1.75, 1.75, 1.75	2½ x 3⅛ x 3⅛	$ 10.17	$ 9.15	$ 8.24	$ 7.63
P-6430*	6.3†, 6.3†	3.0, 3.0	2½ x 2⅞ x 3⅛	8.75	7.88	7.09	6.56
P-6429*	6.3, 6.3, 6.3, 6.3†	3.5, 3.5, 3.5, 3.5	3⅛ x 3½ x 3⅞	12.42	11.18	10.06	9.32
P-6431*	6.3†, 6.3†	6.0, 6.0	3⅛ x 3½ x 3⅞	15.50	13.95	12.56	11.63
P-6434‡	12.6, 12.6†	2.5, 2.5	2¹³⁄₁₆x 3¼ x 3½	9.00	8.10	7.29	6.75

*Has electrostatic shield. †Center tapped. ‡Insulation test voltage, 1500 V rms.

RECTIFIER TRANSFORMERS

Pri. 117 V, 60 Hz. May be operated from a 400 Hz source with no change in output. Wire termination.

Stancor No.	Max. Current, mADC Full-Wave CT	Bridge	½-Wave	Mtg.	Size, In., W. x D. x H.	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
TP-1	1500	900	450	C	2½ x 3 x 3⅛	2.7	$8.08	$7.27	$6.54	$6.06
TP-2	150	100	50	A	2⅞ x 1⅞ x 1⅝	.7	4.67	4.20	3.78	3.50
TP-3	400	300	150	A	3¾ x 2⅛ x 2⅜	1.5	5.67	5.10	4.59	4.25
TP-4	1500	1000	500	C	2½ x 3⅛ x 3⅛	3.2	9.59	8.63	7.77	7.19
TP-5	1100	750	375	A	4 x 2⅜ x 2⅝	2.3	6.75	6.08	5.47	5.06
TP-6	50	35	25	A	2⅜ x 1⅞6 x 1⅜	.45	4.08	3.67	3.30	3.06

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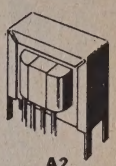
Chokes, Transformers

HIGH CURRENT FILTER CHOKES

Inductance measured at 1 volt, 60 Hz. Insulation test voltage is twice allowable rms working voltage plus 1000 volts. Lead termination.

Stancor No.	Inductance mH	DC Amps	DC Resis. Ohms	Insul. Test V rms	Mtg. Type	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
TC-1	3.0	1.0	.25	1000	A2	1½ x 1⅛ x 1 3/16	$ 2.17	$ 1.95	$ 1.76	$ 1.63
TC-2	11.0	1.0	.75	1000	A2	1½ x 1⅛ x 1 3/16	2.25	2.03	1.82	1.69
C-2690	300 or 75	1.0 2.0	3.0 .75	1500	NV	2 13/16 x 3 x 3 7/16	10.17	9.15	8.24	7.63
C-2685	35	2.0	.75	1500	NH	2⅝ x 2½ x 2 5/16	6.00	5.40	4.86	4.50
C-2691	80 or 20	2.5 5.0	.60 .15	1500	NV	3⅛ x 3½ x 3 13/16	13.67	12.30	11.07	10.25
C-2686	25	4.0	.425	1500	NH	3⅜ x 2⅝ x 2⅞	8.34	7.51	6.76	6.26
C-2687	10	8.0	.15	1500	NH	3¾ x 3 x 3 3/16	11.25	10.13	9.11	8.44
C-2688	10	12.5	.11	1500	NH	4⅛ x 3 x 3½	13.34	12.01	10.81	10.01
C-2689	5	22.5	.03	1500	NH	4½ x 4 9/16 x 3 13/16	23.34	21.01	18.91	17.51
C-2692	24	20	.12	1500	NV	4 7/16 x 5¼ x 5¼	60.01	54.01	48.61	45.01
	6	40	.029							



A2

MINIATURIZED HIGH CURRENT CHOKES

Inductance measured at 1 V, 60 Hz. Insulation test voltage is twice allowable rms working voltage plus 1000 V. Lead termination.

Stancor No.	Inductance mH	DC A	DC Resis. Ohms	Insul. Test V rms	Mtg. Type	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
C-2721	2000	.065	180	1500	A	2⅛ x 1⅛ x 1¼	$1.92	$1.73	$1.56	$1.44
C-2722	400	.135	31	1500	A	2⅛ x 1⅛ x 1¼	1.75	1.58	1.42	1.31
C-2723	700	.135	40	1500	A	2⅜ x 1¼ x 1 7/16	2.00	1.80	1.62	1.50
C-2724	250	.275	16	1500	A	2⅜ x 1¼ x 1 7/16	2.08	1.87	1.68	1.56
C-2725	400	.275	22	1500	A	2⅞ x 1 7/16 x 1⅝	2.25	2.03	1.82	1.69
C-2726	125	.550	6.0	1500	A	2⅞ x 1 7/16 x 1⅝	2.33	2.10	1.89	1.75
C-2727	250	.500	10	1500	A	3¼ x 1 11/16 x 2	2.83	2.55	2.29	2.12
C-2728	75	1.000	2.5	1500	A	3¼ x 1 11/16 x 2	2.75	2.48	2.23	2.06

NV

LOW CURRENT "VERSATILE" CONTROL/RECTIFIER TRANSFORMERS

Primary 117 V, 50/60 Hz. Three isolated 12-volt secondaries (one with a center tap) provide many combinations of voltage and current with series or parallel connections. Ideal for pilot lamps, miniature relays, low current-low voltage power supplies, etc. Mounting type S.

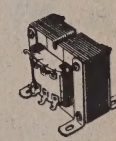
Stancor No.	Secondary No. 1 V	No. 1 A	No. 2 V	No. 2 A	No. 3 V	No. 3 A	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8361	12	.10	12	.10	12 CT	.10	2 x 1½ x 1¾	$4.92	$4.43	$3.99	$3.69
P-8362	12	.15	12	.15	12 CT	.15	2⅜ x 1¾ x 2	4.08	3.67	3.30	3.06
P-8363	12	.25	12	.25	12 CT	.25	2⅞ x 1¾ x 2⅜	5.25	4.73	4.25	3.94
P-8364	12	.50	12	.50	12 CT	.50	2⅞ x 2⅛ x 2⅜	5.67	5.10	4.59	4.25

SC

MINIATURIZED CONTROL/RECTIFIER TRANSFORMERS

Primary 117 V, 50/60 Hz. May be operated from a 400 Hz source with no change in output ratings. Secondary 12 V. Insulation test 1500 V rms. Lead termination.

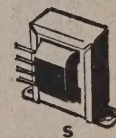
Stancor No.	Secondary Amperes rms	Bridge	Half-Wave	Mtg. Type	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8390	.150	.100 DC	.050 DC	A	2⅛ x 1¼ x 1¼	.25	$3.33	$3.00	$2.70	$2.50
P-8391	.350	.225 DC	.110 DC	A	2⅜ x 1⅜ x 1⅜	.35	3.33	3.00	2.70	2.50
P-8392	.700	.450 DC	.225 DC	A	2⅞ x 2⅜ x 1⅝	.60	3.58	3.22	2.90	2.69
P-8393	1.200	.750 DC	.375 DC	A	3¼ x 1⅝ x 2	.85	4.33	3.90	3.51	3.25



NH

Primary 117 V, 50/60 Hz. May be operated from a 400 Hz source with no change in output ratings. Insulation test 1500 V rms. Mounting type A. Lead wire termination.

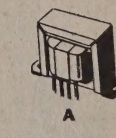
Stancor No.	Secondary Amperes rms	Full-Wave CT	Bridge	Sec. VCT	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-8394	.085	.135 DC	.065 DC	24	2⅛ x 1¼ x 1¼	.25	$3.92	$3.53	$3.18	$2.94
P-8395	.200	.275 DC	.135 DC	24	2⅜ x 1⅜ x 1⅜	.35	3.92	3.53	3.18	2.94
P-8396	.400	.550 DC	.270 DC	24	2⅞ x 1½ x 1⅝	.60	3.92	3.53	3.18	2.94
P-8397	.700	.925 DC	.450 DC	24	3¼ x 1⅝ x 2	.85	4.42	3.98	3.58	3.32
P-8600	.085	.110 DC	.065 DC	28	2⅛ x 1¼ x 1¼	.25	3.42	3.08	2.77	2.57
P-8601	.175	.225 DC	.125 DC	28	2⅜ x 1⅜ x 1⅜	.35	3.67	3.30	2.97	2.75
P-8602	.300	.350 DC	.200 DC	28	2⅞ x 2⅜ x 1⅝	.60	3.83	3.45	3.10	2.87
P-8603	.800	1.000 DC	.500 DC	28	3¼ x 2 x 2	1.0	4.50	4.05	3.65	3.38
P-8610	.065	.075 DC	.045 DC	36	2⅛ x 1¼ x 1¼	.25	3.50	3.15	2.84	2.63
P-8611	.135	.175 DC	.100 DC	36	2⅜ x 1⅜ x 1⅜	.35	3.33	3.00	2.70	2.50
P-8612	.300	.350 DC	.200 DC	36	2⅞ x 1½ x 1⅝	.60	3.75	3.38	3.04	2.81
P-8613	.550	.650 DC	.350 DC	36	3¼ x 1⅝ x 2	1.0	4.58	4.12	3.71	3.44



S

Primary 230 V, 50/60 Hz. May be operated from a 400 Hz source with no change in output ratings. Insulation test 1500 V rms. Mounting type A. Lead wire termination

P-8720	.085	.135 DC	.065 DC	24	2⅛ x 1¼ x 1¼	.25	$3.50	$3.15	$2.84	$2.63
P-8721	.200	.275 DC	.135 DC	24	2⅜ x 1⅜ x 1⅜	.35	3.58	3.22	2.90	2.69
P-8722	.400	.550 DC	.270 DC	24	2⅞ x 1½ x 1⅝	.60	4.17	3.75	3.38	3.13
P-8723	.700	.925 DC	.450 DC	24	3¼ x 1⅝ x 2	.85	4.75	4.28	3.85	3.56
P-8728	.065	.075 DC	.045 DC	36	2⅛ x 1¼ x 1¼	.25	3.25	2.93	2.63	2.44



A

AUTOMATION CONTROL/RECTIFIER TRANSFORMERS

May be operated from a 400 Hz source with no change in output ratings. By connecting primaries in series (for 230 V) but using only 115 input, a series of half voltage output ratings becomes available at the full rated current from each secondary. Solder lug termination.

Stancor No.	Secondary Parallel	Secondary Series	VA Rating	Mtg. Type	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-6375	6 V at 2 amps	12 V at 1 amp	12	S	1	$ 4.83	$ 4.35	$ 3.91	$ 3.62
P-6376	6 V at 4 amps	12 V at 2 amps	24	S	1.5	5.67	5.10	4.59	4.25
P-6377	12 V at 4 amps	24 V at 2 amps	48	S	2.5	7.17	6.45	5.81	5.38
P-6378	12 V at 8 amps	24 V at 4 amps	96	NV	4.2	12.50	11.25	10.13	9.38
P-6379	12 V at 16 amps	24 V at 8 amps	192	NV	8	22.92	20.63	18.57	17.19
P-8615	24 V at 0.5 amp	48 V at 0.25 amp	12	S	1.0	5.42	4.88	4.39	4.07
P-8616	24 V at 1 amp	48 V at 0.5 amp	24	S	1.5	6.25	5.63	5.06	4.69
P-8617	24 V at 2 amps	48 V at 1 amp	48	S	2.5	7.50	6.75	6.08	5.63
P-8618	24 V at 4 amps	48 V at 2 amps	96	NV	4.2	11.25	10.13	9.11	8.44
P-8619	24 V at 8 amps	48 V at 4 amps	192	NV	8.0	16.67	15.00	13.50	12.50

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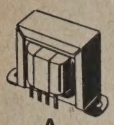
FILTER CHOKES AND TRANSFORMERS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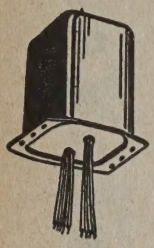
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L

C

NV

SMOOTHING FILTER CHOKES

Inductance tolerance, −15% +50% at 10 volts, 60 Hz. Insulation test voltage is twice allowable rms working voltage plus 1000 volts. Lead termination unless otherwise noted.

Stancor No.	Inductance H	DC mA	DC Resis. Ohms	Insul. Test Vrms	Mtg. Type	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
C-2345	350	5	5600	2500	A	3¼ x 1¾ x 2	$ 4.42	$ 3.98	$ 3.58	$ 3.32
C-2344	1.5	10	85	2500	A	2⅛ x 1⅛ x 1¼	2.25	2.03	1.82	1.69
C-2707	2.0	15	70	1500	A	2⅛ x 1⅛ x 1¼	2.33	2.10	1.89	1.75
C-1515	20.0	15	900	1500	A	2⅞ x 1⅜ x 1⅝	3.50	3.15	2.84	2.63
C-2346	35.0	15	1800	1500	A	2⅞ x 1⅜ x 1⅜	2.50	2.25	2.03	1.88
C-2318	12.0	30	400	2000	A	2⅞ x 1⅜ x 1⅜	2.58	2.32	2.09	1.94
C-1706	4.5	50	300	1500	A	2⅛ x 1¼ x 1⅜	2.50	2.25	2.03	1.88
C-1707	7.0	50	550	1500	A	2⅜ x 1¼ x 1⅜	3.08	2.77	2.49	2.31
C-1279	8.5	50	400	1500	A	2⅞ x 1⅜ x 1⅝	3.00	2.70	2.43	2.25
C-1215	9.0	50	500	1500	A	2⅞ x 1⅜ x 1⅝	2.83	2.55	2.29	2.12
C-1003	16.0	50	580	1500	A	3¼ x 1⅝ x 2	3.75	3.38	3.04	2.81
C-1708	13.0	65	500	1500	A	3¼ x 1¾ x 2	3.25	2.93	2.63	2.44
C-1355*	8.0	75	290	1500	L	2 x 2⅜ x 2	4.17	3.75	3.38	3.13
C-1002	15.0	75	400	1500	A	3¾ x 2 x 2⅜	4.00	3.60	3.24	3.00
C-1709	8.0	85	250	1500	A	3¼ x 1⅞ x 2	3.50	3.15	2.84	2.63
C-2305	5.0	100	300	1500	SC	2 1/16 x 2¼ x 2 11/16	7.33	6.60	5.94	5.50
C-1001	10.5	110	225	3000	A	4 x 2⅛ x 2⅝	5.33	4.80	4.32	4.00
C-2303	2.5	130	100	2000	A	3¼ x 1⅝ x 2	3.75	3.38	3.04	2.81
C-2304	2.3	150	60	1500	A	3¼ x 1¾ x 2	4.08	3.67	3.30	3.06
C-2309	3.0	150	90	2000	A	3¾ x 1⅞ x 2⅜	4.08	3.67	3.30	3.06
C-1710	7.0	150	200	1500	A	4 x 2 x 2⅝	5.75	5.18	4.66	4.31
RC-12150	12.0	150	150	2500	SC	4 x 3¼ x 3⅞	12.50	11.25	10.13	9.38
C-2327	1.5	200	85	1500	A	2⅞ x 1½ x 1⅝	3.08	2.77	2.49	2.31
C-2325	2.0	200	60	1500	A	3¾ x 1⅞ x 2⅜	4.08	3.67	3.30	3.06
C-1411	4.5	200	80	3000	C	2 13/16 x 4¼ x 3½	8.59	7.73	6.96	6.44
RC-8200	8.0	200	85	2500	SC	4 7/16 x 3 11/16 x 4 5/16	17.25	15.53	13.97	12.94
C-2705	10.0	200	150	2500	C	2 13/16 x 3 9/16 x 3½	9.25	8.33	7.49	6.94
C-2343	0.75	300	32	1500	A	2⅞ x 1⅜ x 1⅝	2.75	2.48	2.23	2.06
C-2326	1.0	300	43	1500	A	3¾ x 2 x 2⅜	4.17	3.75	3.38	3.13
C-2334	2.8	300	60	1500	A	4 x 2⅛ x 2⅝	6.75	6.08	5.47	5.06
C-2308	8.0	300	80	3000	C	3¾ x 4 x 4 11/16	16.25	14.63	13.16	12.19
C-2347	1.0	350	40	1500	A	3¼ x 1¾ x 2	3.75	3.38	3.04	2.81
C-2328	0.8	375	25	1500	A	3¾ x 1⅞ x 2⅜	4.58	4.12	3.71	3.44
C-2709	2.0	400	40	2500	A	4 x 2⅛ x 2⅝	7.00	6.30	5.67	5.25
C-2708	0.32	600	10	1500	A	3¼ x 1⅝ x 2	3.58	3.22	2.90	2.69

*With lugs.

STEP-DOWN AUTOTRANSFORMERS

Primary 230 V, 50/60 Hz; line cord and plug. Secondary 115 V; standard female receptacle.

Stancor No.	Cap. VA	Mtg. Type	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Quantities of 1-9	10-24	25-49	50-99
P-6287	40	C	2½ x 2⅝ x 3½	2.2	$10.17	$ 9.15	$ 8.24	$ 7.63
P-5063	100	C	3⅛ x 3⅝ x 3⅞	4.5	13.75	12.38	11.14	10.31
P-5064	150	C	3 7/16 x 3⅝ x 4¼	5.2	14.17	12.75	11.48	10.63
SD-50	50	SC	3½ x 2⅞ x 3½	2.8	12.09	10.88	9.79	9.07
SD-500	500	SC	5⅞ x 5 5/16 x 6 1/16	14.5	33.34	30.01	27.01	25.01
P-8620*	50	A	3 1/16 x 1⅞ x 2 5/16	1.5	4.00	3.60	3.24	3.00
P-8630	85	C	2⅝ x 2¾ x 3½	2.5	9.00	8.10	7.29	6.75
P-8631	125	C	2⅝ x 3 x 3½	3.0	10.00	9.00	8.10	7.50
P-8632	200	C	3⅛ x 3¾ x 3⅞	4.2	13.00	11.70	10.53	9.75
P-8633	300	C	3⅛ x 4⅛ x 3⅞	5.2	15.00	13.50	12.15	11.25
P-8634	400	C	3⅛ x 4¾ x 3⅞	7.0	16.84	15.16	13.64	12.63
P-8635	500	C	3¾ x 4¾ x 4 5/16	10.3	21.09	18.98	17.08	15.82
P-8636	1000	C	3¾ x 6⅜ x 4 5/16	17.0	30.59	27.53	24.78	22.94

*Has lead wires.

STEP-UP AUTOTRANSFORMERS

Primary 115 V, 50/60 Hz; line cord and plug. Secondary 230 V; standard female receptacle.

P-8637	85	C	2⅝ x 2¾ x 3½	2.5	$ 9.92	$ 8.93	$ 8.04	$ 7.44
P-8638	125	C	2⅝ x 3 x 3½	3.0	9.75	8.78	7.90	7.31
P-8639	300	C	3⅛ x 3⅞ x 3⅞	5.2	15.92	14.33	12.90	11.94
P-8640	500	C	3¾ x 4¾ x 4 5/16	10.3	22.59	20.33	18.30	16.94

STEP-DOWN AUTOTRANSFORMERS

Grounded safety type; 3-wire NEMA standard line cord, plug and receptacle. Semi-shielded construction.

Stancor No.	Input V	Output V	Test Vrms	Cap. VA	Mtg. Type	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-99
GSD-75	230	115	1500	75	C	3 3/16 x 2¼ x 3⅞	$12.67	$11.40	$10.26	$ 9.50
GSD-100	230	115	1500	100	C	3 3/16 x 3 x 3⅞	13.75	12.38	11.14	10.31
GSD-150	230	115	1500	150	C	3 3/16 x 3¼ x 3⅞	13.92	12.53	11.28	10.44
GSD-200	230	115	1500	200	C	3 3/16 x 3¼ x 3⅞	20.00	18.00	16.20	15.00
GSD-250	230	115	1500	250	C	3 13/16 x 3¾ x 4 5/8	21.67	19.50	17.55	16.25
GSD-300	230	115	1500	300	C	3 3/16 x 3 5/8 x 3⅞	21.84	19.66	17.69	16.38
GSD-350	230	115	1500	350	C	3 13/16 x 3¾ x 4 5/8	22.00	19.80	17.82	16.50
GSD-400	230	115	1500	400	C	3 3/16 x 4¼ x 3⅞	22.92	20.63	18.57	17.19
GSD-500	230	115	1500	500	C	3 13/16 x 4 3/16 x 4 5/8	23.75	21.38	19.24	17.81
GSD-750	230	115	1500	750	C	4 5/8 x 4 3/16 x 5½	27.76	24.98	22.49	20.82
GSD-1000	230	115	1500	1000	C	4 5/8 x 5 3/8 x 5½	36.01	32.41	29.17	27.01
GSD-1500	230	115	1500	1500	C	4 5/8 x 5 7/8 x 5½	60.85	54.77	49.29	45.64

ISOLATION TRANSFORMERS

Case and core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle for safety. May be operated from a 400 Hz source with no change in output ratings.

STRAIGHT ISOLATION

GIS-100	115	115	1500	100	C	2 13/16 x 3 9/16 x 3½	$13.50	$12.15	$10.94	$10.13
GIS-150	115	115	1500	150	C	3 3/16 x 4 3/16 x 3⅞	17.00	15.30	13.77	12.75
GIS-250	115	115	1500	250	C	3¾ x 4⅜ x 4 1/16	21.00	18.90	17.01	15.75
GIS-500	115	115	1500	500	C	3¾ x 6 x 4 1/16	38.51	34.66	31.19	28.88
GIS-1000	115	115	1500	1000	C	4 5/16 x 8⅛ x 5½	61.85	55.67	50.10	46.39

STEP-DOWN ISOLATION

GISD-100	230	115	1500	100	C	2 13/16 x 3 9/16 x 5½	$14.17	$12.75	$11.48	$10.63
GISD-150	230	115	1500	150	C	3⅛ x 4 3/16 x 3⅞	17.84	16.06	14.45	13.38
GISD-250	230	115	1500	250	C	3¾ x 4¼ x 4 1/16	22.00	19.80	17.82	16.50
GISD-500	230	115	1500	500	C	3¾ x 6 x 4 1/16	40.01	36.01	32.41	30.01
GISD-1000	230	115	1500	1000	C	4 5/16 x 8⅛ x 5½	66.68	60.01	54.01	50.01

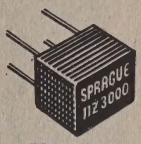
ALL PRICES ARE FOR INDIVIDUALLY BOXED UNITS. CALL US FOR BULK-PACKED QUANTITY PRICES.

SPRAGUE PULSE AND TRIGGER TRANSFORMERS

TYPE 11Z TRIGATE® PULSE TRANSFORMERS

Flexible 6-Lead Type

Plug-In, Thermoplastic Sheath



Plug-In, Pre-molded Case

Trigate pulse transformers are specifically designed for commercial and industrial SCR triggering applications where low cost and excellent performance are required. Unique features offered by these devices include: Balanced pulse characteristics and energy transfer from the primary to secondary and tertiary windings; minimum saturation effect to allow operation where increased pulse widths are required; fast pulse rise time and increased current capability to prevent SCR di/dt failure; increased energy transfer efficiency. **Operating Temperature Range:** −10° C to +70° C; transformers for −40° C to +105° C operation are available on request. **Dielectric Test:** 1600 volts rms at 60 Hz. **AC Line Voltage:** 240 volts rms max. at 60 Hz. Choice of flexible lead and printed wiring board designs.

Flexible Lead 240-VAC Types—Leads are polyurethane-insulated magnet wire for direct soldering to terminals or other circuit components without removal of wire insulation. Mount with plastic clip or bracket such as Weckesser Etho-Loc snap clips. Case size, 0.593″ dia. x 0.828″ lg. with flexible leads 1.500″ lg. min.

Sprague No.	Turns Ratio	Min. L_p, μH	Max. L_L, μH	Max. C_C, pF	Max. DCR, Ohms	No. of Leads	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
11Z12	1:1	200	3	800	1.5–1.5	4	$2.10	$1.65	$1.08	$0.78	$0.72	$0.66
11Z13	1:1:1	200	3	800	2–2–2	6	2.45	1.925	1.26	.91	.84	.77
11Z14	2:1	1000	10	1300	10–2	4	2.975	2.338	1.53	1.105	1.02	.935
11Z15	2:1:1	1000	15	1300	10–2–2	6	3.325	2.613	1.71	1.235	1.14	1.045
11Z16	5:1	5000	1500	400	19–3	4	3.15	2.475	1.62	1.17	1.08	.99

Horizontal Plug-In Thermoplastic Sheath 240-VAC Types—Self-supporting, single-ended pulse transformers with leads especially designed for mounting on printed wiring boards. Case size, 0.968″ w. x 0.775″ d. x 0.800″ h. max. with No. 20 AWG pretinned copper wire leads 0.250″ lg. min.

11Z2000	1:1	200	3	800	1.5–1.5	4	$3.675	$2.888	$1.89	$1.365	$1.26	$1.155
11Z2001	1:1	1000	12	2000	8–8	4	3.85	3.025	1.98	1.43	1.32	1.21
11Z2003	2:1	1000	10	1300	10–2	4	4.725	3.713	2.43	1.755	1.62	1.485
11Z2004	5:1	5000	1500	400	19–3	4	4.20	3.30	2.16	1.56	1.44	1.32
11Z2100	1:1:1	200	3	800	2–2–2	6	4.375	3.438	2.25	1.625	1.50	1.375
11Z2101	1:1:1	1000	12	2000	10–10–10	6	4.55	3.575	2.34	1.69	1.56	1.43
11Z2103	2:1:1	1000	15	1300	10–2–2	6	5.425	4.263	2.79	2.015	1.86	1.705
11Z2104	5:1:1	5000	1500	400	20–4–4	6	4.90	3.85	2.52	1.82	1.68	1.54

Horizontal Plug-In, Pre-molded Case 240-VAC Types—Same as above. Case size, .950″ w. x .775″ d. x .750″ h.

Sprague Number	Turns Ratio	Min. L_p, μH	Max. L_L, μH	Max. C_C, pF	Max. DCR, Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
11Z3000	1:1	200	3	800	1.5–1.5	$4.095	$3.218	$2.106	$1.521	$1.404	$1.287
11Z3001	1:1	1000	12	2000	8–8	4.27	3.355	2.196	1.586	1.464	1.342
11Z3002	1:1	5000	15	3500	18–18	4.445	3.493	2.286	1.651	1.524	1.397
11Z3003	2:1	1000	10	1300	10–2	5.145	4.043	2.646	1.911	1.764	1.617
11Z3004	5:1	5000	1500	400	19–3	4.62	3.63	2.376	1.716	1.584	1.452
11Z3100	1:1:1	200	3	800	2–2–2	4.795	3.768	2.466	1.781	1.644	1.507
11Z3101	1:1:1	1000	12	2000	10–10–10	4.97	3.905	2.556	1.846	1.704	1.562
11Z3102	1:1:1	5000	15	3500	27–27–27	5.495	4.318	2.826	2.041	1.884	1.727
11Z3103	2:1:1	1000	15	1300	10–2–2	5.845	4.593	3.006	2.171	2.004	1.837
11Z3104	5:1:1	5000	1500	400	20–4–4	5.32	4.18	2.736	1.976	1.824	1.672

TYPE 66Z SCR TRIGGER TRANSFORMERS

Pre-molded construction permits slightly lower cost than fully-molded units without sacrifice in humidity resistance. Small size for use on PC boards and in encapsulated modular packages. Size, .400″ w. x .785″ l. x .312″ h.

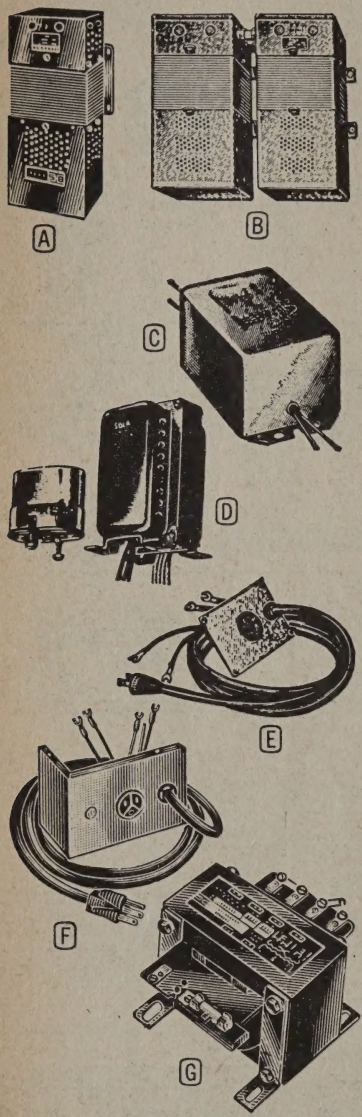
Sprague Number	Turns Ratio	Min. L_p μH	Max. L_L μH	Max. C_C pF	Output Winding*	rms Volts†	Line VAC‡	Net Each, Lots of 1-24	25-49	50-99	100-249
66Z900	1:1:1	700	300	25	60	1000	240	$6.475	$5.088	$3.33	$2.405
66Z903	1:1:1	700	300	25	60	2200	550	6.65	5.225	3.42	2.47
66Z930	1:1:1	4800	25	50	110	1000	240	7.525	5.913	3.87	2.795
66Z932	1:1:1	4800	25	50	110	2200	550	7.70	6.05	3.96	2.86

*Typical Vμsec. †60-cycle dielectric test. ‡Max. 60 Hz AC line voltage.

CONSTANT VOLTAGE TRANSFORMERS

CVS/CVN SERIES CONSTANT VOLTAGE TRANSFORMERS

Regulate voltage output within ±½% regardless of input voltage variations as great as ±15%. Ultra-fast regulating action—response time is 1.5 Hz or less. Provide fully automatic, continuous regulation with no manual adjustments needed. In tables, figure column indicates case structure: Fig. A, single housed unit with exposed core end housings and screw terminals in outlet box; Fig. B, same as A but duplex assembly; Fig. C, drawn case with integral capacitor; Fig. D, end bell unit with exposed core and separate capacitor.



CVS SERIES SINUSOIDAL TYPE

Less than 3% harmonic content. Excellent for equipment having elements sensitive to power frequencies harmonically related to fundamental. No filters employed.

CVS UNITS FOR 60 Hz, SINGLE PHASE

Sola No.	Fig.	Volt-Amps	Voltage Input	Voltage Output	Kit Code*	Overall Size, Inches	Net Each*
23-13-030-2	A	30	95–130	118	c	6⅛ x 5 3/16 x 3¼	$ 50.50
23-13-060-2	A	60	95–130	118	c	6 15/16 x 5 3/16 x 3¼	60.10
23-22-112-2	A	120	95–130 x 190–260	118	c	9⅛ x 5 3/16 x 3¼	77.10
23-22-125	A	250	95–130 x 190–260	118	a	8⅛ x 5 3/16 x 3¼	105.00
23-22-150	A	500	95–130 x 190–260	118	b	12 7/16 x 6 7/16 x 7 25/32	170.95
23-23-060-2	A	60	190–260 x 380–520	118	c	6 15/16 x 5 3/16 x 3¼	65.60
23-23-112-2	A	120	190–260 x 380–520	118	c	8⅛ x 5 3/16 x 3¼	81.70
23-23-125	A	250	190–260 x 380–520	118	a	9⅝ x 7 7/16 x 4½	111.50
23-25-175	A	750	95–130 x 175–235 x 190–260	118 x 236	b	16 13/16 x 6 7/16 x 7 25/32	218.65
23-25-210	A	1000	95–130 x 175–235 x 190–260	118 x 236	.....	17⅞ x 6⅞ x 7 25/32	266.35
23-25-215	A	1500	95–130 x 175–235 x 190–260	118 x 236	.....	19 5/16 x 9 1/32 x10 3/16	358.90
23-25-220	A	2000	95–130 x 175–235 x 190–260	118 x 236	.....	19⅞ x 9 1/32 x10 3/16	453.40
23-25-230-3	A	3000	95–130 x 175–235 x 190–260	118 x 236	.....	21⅞ x 9 1/16 x10 3/16	630.20
23-25-250	B	5000	95–130 x 175–235 x 190–260	118 x 236	.....	20 13/16 x 9 1/32 x25 13/16	984.50
23-26-150	A	500	190–260 x 380–520	118 x 236	b	12 7/16 x 6 7/16 x 7 25/32	169.35
23-26-210	A	1000	190–260 x 380–520	118 x 236	.....	17⅞ x 6 7/16 x 7 25/32	267.00
23-26-220	A	2000	190–260 x 380–520	118 x 236	.....	19⅞ x 9 1/32 x10 3/16	454.65
23-26-230	A	3000	190–260 x 380–520	118 x 236	.....	21⅞ x 9 1/32 x10 3/16	630.20
23-26-250	B	5000	190–260 x 380–520	118 x 236	.....	20 13/16 x 9 1/32 x25 13/16	984.50

CVS UNITS FOR 50 Hz, SINGLE PHASE

23-13-560-2	A	60	95–130	118	c	7¼ x 5 13/16 x 3¼	$ 68.80
23-22-612	A	120	95–130 x 190–260	118	a	8¾ x 7 7/16 x 4½	89.25
23-22-625	A	250	95–130 x 190–260	118	b	11 5/16 x 6 7/16 x 7 25/32	120.15
23-22-650-1	A	500	95–130 x 190–260	118	b	13 x 6 7/16 x 7 25/32	180.55
23-23-560-2	A	60	190–260 x 380–520	118	c	7¼ x 5 13/16 x 3¼	74.35
23-25-710	A	1000	95–130 x 175–235 x 190–260	118 x 236	.....	18⅞ x 9 1/32 x10 3/16	311.85

CVN SERIES NORMAL HARMONIC TYPE

Average 20% total rms harmonic content. Ideal for DC outputs and where harmonics are meaningless.

CVN UNITS FOR 60 Hz, SINGLE PHASE

Sola No.	Fig.	Volt-Amps	Voltage Input	Voltage Output	Kit Code*	Overall Size, Inches	Net Each*
20-10-015	C	15	95–130	118	.....	5 5/16 x 3½ x 2⅝	$ 35.35
20-13-030-2	A	30	95–130	118	c	5⅞ x 5 3/16 x 3¼	43.45
20-13-060-2	A	60	95–130	118	c	6 1/32 x 5 3/16 x 3¼	51.25
20-13-112-2	A	120	95–130	118	c	7⅜ x 5 3/16 x 3¼	67.10
20-13-115	A	150	95–130	118	a	8¾ x 7 7/16 x 4½	81.40
20-14-015	D	15	95–130	118	.....	2 1/32 x 4 5/16 x 2 7/16	31.85
20-14-030	D	30	95–130	118	.....	2 1/32 x 4 5/16 x 3 5/16	37.10
20-14-060	D	60	95–130	118	.....	3⅛ x 4 13/16 x 3⅞	43.15
20-14-112	D	120	95–130	118	.....	3⅛ x 4 13/16 x 4 13/16	67.10
20-21-112-2	A	120	190–260	236	c	7⅜ x 5 3/16 x 3¼	67.10
20-22-125	A	250	95–130 x 190–260	118	b	11 1/16 x 6 7/16 x 5 23/32	99.25
20-22-150	A	500	95–130 x 190–260	118	b	12 5/16 x 6 7/16 x 5 23/32	151.65
20-22-210	A	1000	95–130 x 190–260	118	.....	15⅛ x 6 7/16 x 5 23/32	251.55
20-23-125	A	250	190–260 x 380–520	118	b	11⅛ x 6 7/16 x 5 23/32	100.75
20-25-220	A	2000	95–130 x 175–235 x 190–260	118 x 236	.....	20 x 9 1/32 x 8 3/8	406.65
20-25-230	A	3000	95–130 x 175–235 x 190–260	118 x 236	.....	22 x 9 1/32 x 8 3/8	607.60
20-26-150	A	500	190–260 x 380–520	118 x 236	b	12 5/16 x 6 7/16 x 5 23/32	162.95
20-27-250	A	5000	190–260 x 380–520	118 x 236	.....	21 x12 5/8 x11 7/8	957.35

CVN UNITS FOR 50 Hz, SINGLE PHASE

20-10-515	C	15	95–130	118	.....	5 5/16 x 3½ x 2⅝	$ 39.10
20-13-530-2	A	30	95–130	118	c	6 5/32 x 5 3/16 x 3¼	53.80
20-13-560-2	A	60	95–130	118	c	6 5/16 x 5 3/16 x 3¼	58.80
20-13-612	A	120	95–130	118	a	8¾ x 7 7/16 x 4½	85.65
20-13-615	A	150	95–130	118	a	9 1/16 x 7 7/16 x 4½	101.60
20-22-625	A	250	95–130 x 190–260	118	b	11 1/16 x 6 7/16 x 5 23/32	116.65
20-22-650	A	500	95–130 x 190–260	118	b	12 13/16 x 6 7/16 x 5 23/32	173.95
20-22-710	A	1000	95–130 x 190–260	118	.....	18 7/16 x 9 1/32 x 8 3/8	292.35
20-26-650	A	500	190–260 x 380–520	118 x 236	b	12 13/16 x 6 7/16 x 5 23/32	186.70

*Cord/Receptacle Adapter Kits available; see table, left, for code explanation.

CORD/RECEPTACLE ADAPTER KITS

Provide convenience of input plug and output receptacle for most Series CVS and CVN single housed transformers (Fig. A). To determine the correct adapter kit for a given transformer, refer to Kit Code column in the CVS/CVN tables at right. Description column below indicates 2-wire or 3-wire input cord and output receptacle connections.

Kit Code	Sola Kit No.	Fig.	Description	Net Each
a	999-005	E	2-wire	$8.95
a	999-019	E	3-wire	8.95
b	999-009	E	2-wire	8.95
b	999-020	E	3-wire	8.95
c	999-104	F	2-wire	9.50
c	999-105	F	3-wire	9.50

★QUANTITY DISCOUNTS

Quantity	Discounts
1–9	None
10–49	– 9%
50–99	–19%

CONTROL TRANSFORMERS (FIG. G)

Single phase control transformers for multiple usage with relays, solenoids, recording devices and similar applications. Available in triple voltage, dual frequency of 50/60 Hz at 240/480–120 volts, 230/460–115 volts, and 220/440–110 volts. All models have 55° C temperature rise.

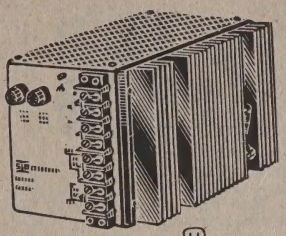
Sola No.	KVA	Overall Size, Inches	Weight, Lbs.	Net Each 1-4
35-10-025	.025	3 3/16 x 3 x 2 5/16	2	$ 7.00
35-10-050	.050	3 5/16 x 3 x 2 5/16	2½	8.40
35-10-075	.075	3 19/32 x 3⅜ x 2⅞	3½	9.70
35-10-100	.100	3 25/32 x 3⅜ x 2⅞	3½	11.00
35-10-150	.150	4 7/16 x 4½ x 3 13/16	6½	13.30
35-10-200	.200	4 11/16 x 4½ x 3 13/16	7½	15.80
35-10-250	.250	5 1/16 x 4½ x 3 13/16	9	18.90
35-10-300	.300	4 15/16 x 5¼ x 4⅝	11¼	20.60
35-10-350	.350	5 5/16 x 5¼ x 4⅝	13	22.80
35-10-500	.500	6 x 5¼ x 4⅝	16¼	27.50
35-10-750	.750	6 11/32 x 6⅜ x 5⅝	24	39.10
35-10-210	1.0	7 3/16 x 6⅜ x 5⅝	30½	47.70

THE STATE-OF-THE ART IN MODULAR POWER SUPPLIES: TOTALLY INTERCHANGEABLE, ZERO MAINTENANCE, LONG LIFE, FAIL-SAFE PERFORMANCE, AND LOW COST.

PREMIUM MODULAR POWER SUPPLIES (FIG. H)

High performance, IC regulated power supplies are completely protected from overvoltage, overtemperature, and short circuit. Convectionally cooled modular power supplies give 0.01% + line or load regulation. Power supplies with 0.01% RMS PARD, have integrated circuit for increased stability. Fully equipped with remote sensing and automatic current limiting.

Sola No.	Output Voltage Adjustment	Output Current Amps	Net Each*
82-05-315	4.8– 5.5 V	15	$165.00
82-12-270	11.5–12.5 V	7	165.00
82-15-258	14.5–15.5 V	5.8	165.00
82-24-240	23–25 V	4	165.00
82-05-325	4.8– 5.5 V	25	215.00
82-12-312	11.5–12.5 V	12	215.00
82-15-296	14.5–15.5 V	9.6	215.00
82-24-260	23–25 V	6	215.00
82-48-230	46–50 V	3	215.00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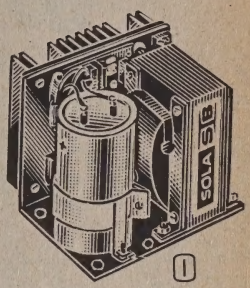

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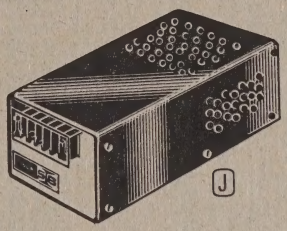
OEM MODULAR POWER SUPPLIES (FIG. I)

Completely interchangeable series regulated power supplies come with remote sensing and short circuit protection. Convectionally cooled power supplies give a regulation of 0.05% +1 mV on line voltage or under full load. Constant voltage power supplies have 0.01% rms PARD. Built-in automatic current limiting. Can be operated on bench or rack mounted.

Sola No.	Output Voltage Adjustment	Output Current Amps	Net Each*
83-05-260	4.8– 5.5 V	6	$ 59.00
83-12-250	11.5–12.5 V	5	59.00
83-15-240	14.5–15.5 V	4	59.00
83-24-225	23–25 V	2.5	59.00
83-05-312	4.8– 5.5 V	12	89.50
83-12-310	11.5–12.5 V	10	89.50
83-15-280	14.5–15.5 V	8	89.50
83-24-260	23–25 V	6	89.50
83-48-230	46–50 V	3	89.50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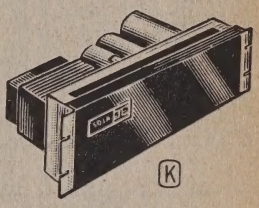
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CVDC MODULAR POWER SUPPLIES (FIG. J)

Long life, low cost modular power supplies are completely protected from short circuits. Convectionally cooled modular power supplies come with regulation of 1% line on 4% to 10% load, and 3% RMS PARD. Ferroresonant design for high reliability.

Sola No.	DC Output V	DC Output Amps	DC Output VA	Load Regulation ½ l.-f.l.	Load Regulation ¼ l.-f.l.	Max. Ripple rms	Net Each*
28-04-315*	12.3	15	60	0.5	0.8	0.4	$100.00
28-05-315*	5.2	15	78	0.5	0.8	0.4	100.00
28-06-315*	6.3	15	95	0.5	0.8	0.4	100.00
28-10-312*	10.0	12	120	0.6	1.0	0.4	100.00
28-12-310*	12.0	10	120	0.6	1.0	0.4	100.00
28-15-280*	15.0	8	120	0.8	1.3	0.3	100.00
28-18-267*	18.0	6.7	120	0.8	1.3	0.3	100.00
28-24-250*	24.0	5	120	1.0	1.7	0.3	100.00
28-28-243*	28.0	4.3	120	1.2	2.0	0.3	100.00
28-48-225*	48.0	2.5	120	2.0	3.4	0.3	100.00
28-04-325†	4.0	25	100	0.5	0.8	0.4	149.00
28-05-325†	5.2	25	130	0.5	0.8	0.4	149.00
28-06-325†	6.3	25	155	0.5	0.8	0.4	149.00
28-10-318†	10.0	18	180	0.6	1.0	0.4	149.00
28-12-315†	12.0	15	180	0.6	1.0	0.4	149.00
28-15-312†	15.0	12	180	0.6	1.0	0.3	149.00
28-18-310†	18.0	10	180	0.6	1.0	0.3	149.00
28-24-280†	24.0	8	192	0.7	1.2	0.3	149.00
28-28-270†	28.0	7	196	0.7	1.2	0.3	149.00
28-48-240†	48.0	4	196	1.0	1.7	0.3	149.00

*Shipping Weight, 14 lbs. †Shipping Weight, 19 lbs.

●QUANTITY DISCOUNTS OEM & PREMIUM

Qty.	Discount	Multiplier	Qty.	Discount	Multiplier
1–9	None	None	25–49	−10%	.90
10–24	−5%	.95	50–99	−15%	.85

★QUANTITY DISCOUNTS CVDC REGULATED

Qty.	Discount	Multiplier	Qty.	Discount	Multiplier
1–9	None	None	25–49	−10%	.90
10–24	−5%	.95	50–99	−15%	.85

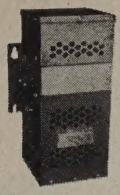
CVDC REGULATED DC POWER SUPPLIES WITH FIXED OUTPUT (FIG. K)

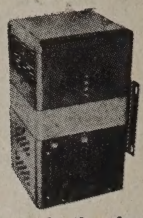
Static-magnetic devices with fixed regulated DC output. Rugged, simple and dependable; for computers, data processing, measurement, telemetering, and wherever isolation from line fluctuation is required. Consists of a constant voltage transformer, rectifier and filter circuit. Provides tight regulation, quick response, isolation and current limiting, high efficiency and reliability; no-maintenance operation. **Regulation:** Handles rough voltage inputs; holds output voltage of ±1% or less for input variations as great as ±15% of nominal input voltage. Rated input range is 100–130 V, 60 Hz. **Response Time:** Output voltage will return to regulation envelope within 25 msec. **Frequency:** Actual variation is linear over ±5% change in frequency from 60 Hz, approx. 1.4% voltage increase for 1% frequency increase. **Load Regulation:** Resistive loads (unity pF) within load rating will cause nominal output to drop from no load to full load. Inductive loads (lagging pF) cause nominal output to decrease with power factor. Leading pF similarly causes a voltage rise. **Efficiency:** 80–90% full load. Input power factor is approx. 0.8. **Ripple:** Total content does not exceed 1% rms. **Short Circuit Protection:** Automatic current limiting is inherent in transformer; limited to approx. 250% of rated value. **Operating Temperature:** 0° to 50° C ambient; output voltage will change approx. 1% for every 40° C change in temperature. **Multiple Operation:** Two or three units can be paralleled for higher output current rating, or connected in series for higher output voltage. **Three-Phase Operation:** Achieved by connecting inputs of three units of the same type to the line and connecting outputs in parallel. **Mounting:** Standard 19″ wide rack panel.

Sola Number	DC Output V	DC Output Amps	DC Output VA	Load Regulation 20% f.l.	Load Regulation 50% f.l.	Size, Inches Panel Ht.	Size, Inches Depth	Net Each*
281513-2	6	10	60	9%	7%	3½	7⅝	$160.00
282123-1	6	15	90	10%	7%	5¼	7¼	185.00
281514-2	12	5	60	7%	5%	3½	7⅝	160.00
282124-1	12	10	120	9%	5%	5¼	7¼	185.00
281845-2	12	15	180	10%	7%	5¼	7¼	185.00
281515-2	18	5	90	5%	4%	3½	7⅝	160.00
282125-1	18	10	180	7%	5%	5¼	7¼	185.00
281024-1	24	6	144	5%	4%	5¼	9¾	185.00
282126-1	24	10	240	6%	4%	5¼	8¾	185.00
281203-2	24	15	360	7%	5%	7	7¼	199.00
282127-1	24	25	600	7%	5%	8¾	9	259.00
28626-2	28	8	224	6%	4%	5¼	8¾	185.00
282128-1	28	15	420	7%	5%	7	7¼	199.00
281048	48	4	192	3.5%	2.5%	5¼	9¾	185.00
281561-2	48	10	480	4%	2%	5¼	9¾	185.00
282129-1	48	20	960	4%	2.5%	8¾	9¾	259.00
281125-1	125	2	250	2.5%	1.5%	5¼	9¾	185.00
281150-1	150	2	300	2%	1.5%	5¼	9¾	185.00
281200	200	1	200	3%	2%	5¼	9¾	185.00
281250	250	1	250	3%	2%	5¼	9¾	185.00

LINE VOLTAGE REGULATORS

SOLATRON® ±½% LINE VOLTAGE REGULATORS





Unique Solatron static-magnetic line voltage regulator combines in one compact unit, fast response, "tight" voltage regulation, adjustable output, remote sensing, high kVA capacity, using no moving parts. Withstands high inrush load currents and momentary overloads, therefore, making it unnecessary to oversize kVA ratings. Combines the ruggedness typical of transformers with the light weight of electronic control circuitry resulting in a regulator of remarkable compactness.

SINGLE-PHASE (60 Hz ±3 Hz)

Sola No.	Max. Output kVA	Input Voltage	Output Voltage Adj.	Approx. Shpg. Wt., Lbs.	Net Each
33-16-150	.5	+10/−20%	108–132	40	$543.00
33-16-210	1	+10/−20%	108–132	58	596.00
33-26-210	1	+10/−20%	216–264	58	596.00
33-16-220-6	2	+10/−20%	104–125	81	797.00
33-26-220-6	2	+10/−20%	208–250	81	797.00
33-16-230-6	3	+10/−20%	104–125	95	916.00
33-26-230-6	3	+10/−20%	208–250	95	916.00
33-16-250-6	5	+10/−20%	104–125	127	1195.00
33-26-250-6	5	+10/−20%	208–250	127	1195.00
33-46-250-6	5	+10/−20%	416–500	127	1195.00
33-16-275-6	7.5	+10/−20%	104–125	168	1481.00
33-26-275-6	7.5	+10/−20%	208–250	168	1481.00
33-46-275-6	7.5	+10/−20%	416–500	168	1481.00
33-16-310-6	10	+10/−20%	104–125	193	1595.00
33-26-310-6	10	+10/−20%	208–250	193	1595.00
33-46-310-6	10	+10/−20%	416–500	193	1595.00
33-16-315	15	+10/−20%	108–132	400	1736.00
33-06-315	15	+10/−20%	188–228	400	1736.00
33-26-215	15	+10/−20%	216–264	400	1736.00
33-16-325	25	+10/−20%	108–132	520	$2307.00
33-06-325	25	+10/−20%	188–228	520	2307.00
33-26-325	25	+10/−20%	216–264	520	2307.00
33-46-325	25	+10/−20%	432–528	520	2307.00
31-16-337	37.5	+10/−10%	108–132	525	2750.00
31-26-337	37.5	+10/−10%	216–264	525	2750.00
31-46-337	37.5	+10/−10%	432–528	525	2750.00
31-16-350-5	50	+10/−10%	114–126	1050	3328.00
31-26-350-5	50	+10/−10%	228–252	1050	3328.00
31-46-350-5	50	+10/−10%	456–504	1050	3328.00
31-16-375-5	75	+10/−10%	114–126	1625	4169.00
31-26-375-5	75	+10/−10%	228–252	1625	4169.00
31-46-375-5	75	+10/−10%	456–504	1625	4169.00
31-16-410-5	100	+10/−10%	114–126	1900	4992.00
31-26-410-5	100	+10/−10%	228–252	1900	4992.00
31-46-410-5	100	+10/−10%	456–504	1900	4992.00
31-16-415-5	150	+10/−10%	114–126	2200	5980.00
31-26-415-5	150	+10/−10%	228–252	2200	5980.00
31-46-415-5	150	+10/−10%	456–504	2200	5980.00

THREE-PHASE DELTA (60 Hz ±3 Hz)

Sola No.	Max. Output kVA	Input Voltage	Output Voltage Adj.	Approx. Shpg. Wt., Lbs.	Net Each
39-29-217	1.7	+10/−20%	216–264	265	$1700.00
39-29-235-6	3.5	+10/−20%	216–264	325	2132.00
39-29-252-6	5.2	+10/−20%	216–264	370	2372.00
39-09-285-6	8.5	+10/−20%	188–228	452	2912.00
39-29-285-6	8.5	+10/−20%	216–264	452	2912.00
39-49-285-6	8.5	+10/−20%	432–528	452	2912.00
39-09-313-6	13	+10/−20%	188–228	558	3536.00
39-29-313-6	13	+10/−20%	216–264	558	3536.00
39-49-313-6	13	+10/−20%	432–528	558	3536.00
39-09-317-6	17	+10/−20%	188–228	1000	3943.00
39-29-317-6	17	+10/−20%	216–264	1000	$3943.00
39-49-317-6	17	+10/−20%	432–528	1000	3943.00
39-09-326	26	+10/−20%	188–228	1300	4657.00
39-29-326	26	+10/−20%	216–264	1300	4657.00
39-49-326	26	+10/−20%	432–528	1300	4657.00
39-09-343	43	+10/−20%	188–228	1645	6177.00
39-29-343	43	+10/−20%	216–264	1645	6177.00
39-49-343	43	+10/−20%	432–528	1645	6177.00
37-29-365	65	+10/−10%	216–264	1660	5594.00
37-49-365	65	+10/−10%	432–528	1660	5594.00

THREE-PHASE WYE (60 Hz ±3 Hz)

Sola No.	Max. Output kVA	Input Voltage	Output Voltage Adj.	Approx. Shpg. Wt., Lbs.	Net Each
39-06-215	1.5	+10/−20%	108–132	210	$1523.00
39-06-230	3	+10/−20%	108–132	265	1682.00
39-06-260-6	6	+10/−20%	108–132	325	2132.00
39-06-290-6	9	+10/−20%	108–132	370	2372.00
39-06-315-6	15	+10/−20%	108–132	452	2910.00
39-46-315-6	15	+10/−20%	250–304	452	2910.00
39-06-322-6	22.5	+10/−20%	108–132	558	3536.00
39-46-322-6	22.5	+10/−20%	250–304	558	3536.00
39-06-330-6	30	+10/−20%	108–132	610	3943.00
39-06-345	45	+10/−20%	108–132	787	4657.00
39-46-345	45	+10/−20%	250–304	787	4657.00
39-06-375	75	+10/−20%	108–132	960	6179.00
39-46-375	75	+10/−20%	250–304	960	$6179.00
37-46-410-5	100	+10/−10%	264–290	2100	7853.00
37-06-411-8	112.5	+10/−10%	108–132	2660	8457.00
37-06-415-5	150	+10/−10%	114–126	3450	9352.00
37-46-415-5	150	+10/−10%	264–290	3450	9352.00
37-06-422-5	225	+10/−10%	114–126	3700	10422.00
37-46-422-5	225	+10/−10%	264–290	3700	10422.00
37-06-430-5	300	+10/−10%	114–126	4800	11623.00
37-46-430-5	300	+10/−10%	264–290	4800	11623.00
37-06-450-5	500	+10/−10%	114–126	6000	15013.00
37-46-450-5	500	+10/−10%	264–290	6000	15013.00

50 Hz UNITS AVAILABLE ON REQUEST

SOLATRON FOR COMPUTERS

Improved Solatron LVR for computers designed specifically to meet stringent requirements of E.D.P. equipment. **Voltage:** 208/230 V nom. Input: 3 phase, +10/−20% range. Output Regulation: ±1% for any combination of line, load, thermal drift, warm-up and frequency. Capable of remote sensing. **Frequency:** 57–63 Hz. **Output Voltage Adjustability:** Continuously adjustable from 208 to 230 volts. **Transient Response Time:** Starts immediately. Complete within 4572 cycles. **Power Efficiency:** 95% typical (watts). **VA Efficiency:** 85% typical. **Load Power Factor:** With little derating, .75 lagging to .95 lagging. Without derating, .95 lagging to unity. **Regulation:** Line regulation, ±¼%; load regulation, ±¼%; line and load, ±½%. **Maximum Harmonics:** Balanced line and load, 35% maximum; unbalanced line and/or load, 6% maximum.

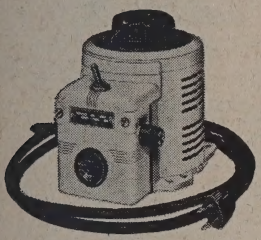
Sola No.	Output kVA	Size Width	Size Depth	Size Height	Shpg. Wt., Lbs.	Net Each
39-59-310	10	27″	20″	50″	540	$ 4239.00
39-59-315	15	27″	20″	50″	700	4745.00
39-59-325	25	36″	27″	65″	1,080	5225.00
39-59-350	50	36″	27″	65″	1,510	8343.00
39-59-375	75	36″	27″	65″	1,785	12516.00
39-59-410*	100	36″	27″	65″	1,200	15891.00
39-59-415*	160	36″	27″	65″	1,385	23084.00
39-59-422*	225	36″	27″	65″	1,585	31892.00

*Regulators consist of 3 cabinets. Size and weight specifications are for each cabinet.

POWERSTAT® VARIABLE TRANSFORMERS WITH POWERKOTE® COILS

10B

126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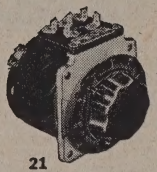
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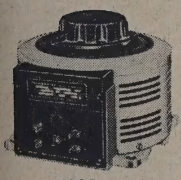
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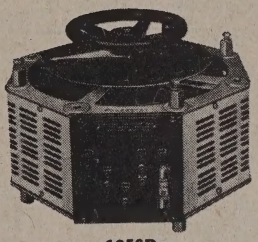

1256D

POWERSTAT Variable Transformers with POWERKOTE Coils give an average of 20% higher current ratings, 10:1 greater overload capability, longer life, greater resistance to fungus, salt spray and other contaminating atmospheres. POWERKOTE Coil commutator bars are embedded in place, preventing steady-state operating temperature and severe overloads from distorting the commutator. POWERSTAT Variable Transformers deliver continuously adjustable voltage from AC lines; feature rugged construction, precious metal-plated commutators, excellent regulation, high efficiency and conservative ratings. They introduce no waveform distortion. Manual and motorized single and ganged assemblies are offered in ratings from .13 to 244 kVA. For complete technical data request current POWERSTAT catalog.

ADJUSTABLE SPEED DRIVES

Motor-driven units in Series 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 are available with adjustable speed drives which permit full range output voltage to be controlled at any speed, 5 to 200 secs. **To Order:** Add prefix **AM** to type number and **$200.00** to the motor driven price. For adjustable speed control **BHP65455-G1,** add **$14.00** to price.

SINGLE PHASE

Superior Number‡	Line Volts	Frequency Hz	Output Volts	Output Max. Amps	Output Max. kVA	Net Each Manual	Net Each Motor* Driven
•10B	120	60■	0-132	2.25#	0.30	$ 16.00	.....
•21	120	50/60	0-140	4.5	0.63	24.11	$ 174.11
•116BU	120	50/60	0-140	10	1.4	31.75	181.75
•116B§	120	50/60	0-140	10	1.4	42.92	192.92
•117BT	120	60	0-120	12	1.4	44.10	194.10
•126U	120	50/60	0-140	15	2.1	58.21	258.21
•126	120	50/60	0-140	15	2.1	64.68	264.68
•3PN126	120	50/60	0-140	15	2.1	81.73	281.73
•136B	120	50/60	0-140	22	3.1	91.73	291.73
•3PN136B	120	50/60	0-140	22	3.1	118.78	318.78
•146	120	50/60	0-140	30	4.2	147.00	347.00
•1156D	120	50/60	0-140	50	7.0	217.56	417.56
136B-3‡	120	50/60	0-140	66	9.2	327.64	527.64
1156D-2P	120	50/60	0-140	100	14.0	496.76	696.76
1156D-3P	120	50/60	0-140	150	21.0	870.87	1070.87
1156D-4P	120	50/60	0-140	200	28.0	1168.02	1368.02
1156D-6P	120	50/60	0-140	300	42.0	1698.73	1898.73
•12	240	50/60	0-264	0.5	0.13	25.28	.....
10B-2	240	60■	0-264	2.25#	0.59	46.68	.....
•22	240	50/60	0-280	2.5	0.70	35.28	185.28
•216BU	240†	50/60	0-280	3.5	0.98	38.22	188.22
•216B§	240†	50/60	0-280	3.5	0.98	51.16	201.16
21-2	240	50/60	0-280	4.5	1.3	69.43	219.43
•217BT	240	60	0-240	5	1.2	49.98	199.98
•226U	240†	50/60	0-280	7.5	2.1	58.21	258.21
•226	240†	50/60	0-280	7.5	2.1	64.68	214.68
3PN226	240†	50/60	0-280	7.5	2.1	83.19	283.19
•116BU-2	240	50/60	0-280	10	2.8	83.50	233.50
116BT-2	240	50/60	0-280	10	2.8	104.14	254.14
•236B	240†	50/60	0-280	10	2.8	91.73	291.73
•3PN236B	240†	50/60	0-280	10	2.8	118.78	218.78
117BT-2	240	60	0-240	12	2.9	113.72	263.72
•246	240†	50/60	0-280	15	4.2	147.00	347.00
•126U-2	240	50/60	0-280	15	4.2	132.89	332.89
126-2	240	50/60	0-280	15	4.2	152.02	352.02
•136B-2▲	240†	50/60	0-280	22	6.2	215.21	415.21
•1256D	240†	50/60	0-280	28	7.8	217.56	417.56
146-2♦	240	50/60	0-280	30	8.4	329.18	529.18
•1156D-2S	240	50/60	0-280	50	14.0	455.11	655.11
•1256D-2P	240†	50/60	0-280	56	15.7	488.04	688.04
1256D-3P	240†	50/60	0-280	84	23.5	855.86	1055.86
1156D-4PS	240	50/60	0-280	100	28.0	1145.34	1345.34
1256D-4P	240†	50/60	0-280	112	31.4	1168.02	1368.02
1156D-6PS	240	50/60	0-280	150	42.0	1672.65	1872.65
1256D-6P	240†	50/60	0-280	168	47.0	1698.73	1898.73
12-2	480	50/60	0-528	0.5	0.26	69.43	.....
22-2	480	50/60	0-560	2.5	1.4	93.37	243.37
216BT-2	480†	50/60	0-560	3.5	2.0	122.09	272.09
217BT-2	480	60	0-480	5	2.4	124.49	274.49
226-2	480†	50/60	0-560	7.5	4.2	152.02	352.02
•236B-2▲	480†	50/60	0-560	10	5.6	215.21	415.21
246-2▲	480†	50/60	0-560	15	8.4	329.18	529.18
•1256D-2S	480†	50/60	0-560	28	15.7	455.11	655.11
1256D-4PS	480†	50/60	0-560	56	31.4	1145.34	1345.34
1256D-6PS	480†	50/60	0-560	84	47.0	1672.65	1872.65

THREE PHASE

Superior Number‡	Line Volts	Frequency Hz	Output Volts	Output Max. Amps	Output Max. kVA	Net Each Manual	Net Each Motor* Driven
10B-2	120	60■	0-132	2.25#	0.51	$ 46.68	.....
21-2	120	50/60	0-140	4.5	1.1	69.43	$ 219.43
•116BU-2	120	50/60	0-140	10	2.4	83.50	233.50
116BT-2	120	50/60	0-140	10	2.4	104.14	254.14
117BT-2	120	60	0-120	12	2.5	113.72	263.72
•126U-2	120	50/60	0-140	15	3.6	132.89	332.89
126-2	120	50/60	0-140	15	3.6	152.02	352.02
•136B-2▲	120	50/60	0-140	22	5.3	215.21	415.21
146-2♦	120	50/60	0-140	30	7.3	329.18	529.18
1156D-2D	120	50/60	0-140	50	12.1	471.37	671.37
1156D-4D	120	50/60	0-140	100	24.2	1116.99	1316.99
1156D-6D	120	50/60	0-140	150	36.4	1672.65	1872.65
12-2	240	50/60	0-264	0.5	0.23	69.43	.....
•10B-3	240	60■	0-240	2.25#	0.94	75.85	.....
22-2	240	50/60	0-280	2.5	1.2	93.37	243.37
•216BU-2	240†	50/60	0-280	3.5	1.7	96.96	246.96
216BT-2	240†	50/60	0-280	3.5	1.7	122.09	272.09
21-3	240	60■	0-280	4.5	2.2	110.12	260.12
217BT-2	240	60	0-240	5	2.1	124.49	274.49
226-2	240†	50/60	0-280	7.5	3.6	152.02	352.02
116BT-3	240	60■	0-280	10	4.8	149.63	299.63
•236B-2▲	240†	50/60	0-280	10	4.8	215.21	415.21
117BT-3	240	60	0-240	12	5.0	158.00	308.00
126-3	240	60■	0-280	15	7.3	233.42	433.42
136B-3‡	240	60■	0-280	22	10.7	327.64	527.64
1256D-2D	240†	50/60	0-280	28	13.6	463.24	663.24
146-3I	240	60■	0-280	30	14.5	490.77	690.77
•1156D-3Y	240	60■	0-280	50	24.2	798.50	998.50
1256D-4D	240†	50/60	0-280	56	27.2	1116.99	1316.99
1256D-6D	240†	50/60	0-280	84	40.7	1672.65	1872.65
1156D-6Y	240	60■	0-280	100	48.5	1644.30	1844.30
12-3	480	60■	0-528	0.5	0.46	106.53	.....
22-3	480	60■	0-560	2.5	2.4	146.03	296.03
216BT-3	480†	60■	0-560	3.5	3.4	166.38	316.38
217BT-3	480	60	0-480	5	4.2	178.35	328.35
226-3	480†	60■	0-560	7.5	7.3	233.42	433.42
•236B-3‡	480†	60■	0-560	10	9.7	316.34	516.34
246-3‡	480†	60■	0-560	15	14.5	490.77	690.77
•1256D-3Y	480†	60■	0-560	28	27.2	798.50	998.50
1256D-6Y	480†	60■	0-560	56	54.3	1644.30	1844.30

EXPLANATION OF FOOTNOTES

‡Letters in Part Numbers Indicate as Follows:

3PN—NEMA plug and receptacle.

Suffix letters and numbers (2, 2S, 4P, 6P, etc.), indicate ganged units. Numeral shows number of units in assembly.

U—Supplied without protective screening, terminal enclosure, input cord, output receptacle, fuse or switch.

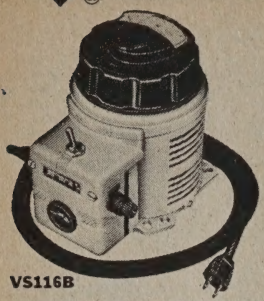
*Add type number prefix from table below to Superior Powerstat No. for full-range travel motor speed desired; e.g., type **5M**21 is 5-sec No. 21 Powerstat, **15MC**126 is 15-sec No. 126 Powerstat, etc. Four-gang or larger types not available in 5-sec speed.

Superior Powerstat Series	Prefix for Full-Range Travel Motor Speed 5 Sec	15 Sec	30 Sec	60 Sec
21-22 116B-216B 117B-217B 146-246	5M	15M	30M	60M
1156D-1256D	5MB	15MB	30MB	60MB
126-226	5MC	15MC	30MC	60MC
136B-236B	5MD	15MD	30MD	60MD

†Also has terminals for operating at ½ this input voltage. ‡For parallel connection, order T5579B choke at **$63.53** extra. §Also available as 3PN type. #Metal panel mounted rating. See published derating for brackets and nonmetallic panels. ▲For parallel connection, order T5000B choke at **$33.08** extra. ■If the maximum output voltage is limited to the input voltage, the frequency range is 50–60 Hz. ♦For parallel connection, order T6053 choke at **$45.15** extra. IFor parallel connection, order T6065 choke at **$79.28** extra.

• AVAILABLE OFF-THE-SHELF FROM STOCK.

Superior ELECTRIC POWERSTAT VARIABLE TRANSFORMERS

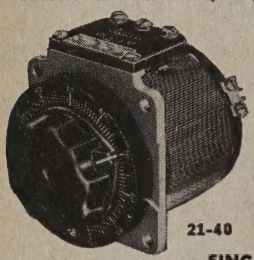

VS116B

METERED KNOB POWERSTAT® VARIABLE TRANSFORMERS

Stationary, direct-reading voltmeter on knob has accuracy of ±3% FS. Voltmeter does not turn with knob; insensitive to stray magnetic fields. Saves panel space, wiring and installation costs. Series 21-22 thru 146-246 back-of-panel mounted types may be combined with metered knob assemblies. Existing models can be retrofitted also.

Superior Type	Line Volts	Freq. Hz	Output Volts	Output Amps‡	Output kVA‡	Price Each
VS116B*	120	50/60	0–140	10	1.4	$ 94.58
VS117BT*	120	60	0–120	12	1.4	97.44
VS126*	120	50/60	0–140	15	2.1	116.11
VS136B*	120	50/60	0–140	22	3.1	142.44
VS146	120	50/60	0–140	30	4.2	202.19
VS216B*	240†	50/60	0–280	3.5	0.98	101.09
VS217BT*	240	60	0–240	5	1.2	102.31
VS226*	240†	50/60	0–280	7.5	2.1	119.36
VS236B*	240†	50/60	0–280	10	2.8	142.44
VS246	240†	50/60	0–280	15	4.2	202.19

*Also available with cord-plugs shown in standard type chart. †Has terminals for operating at half input voltage. ‡Max. **Type VS150** (0–150 V Meter Scale) or **VS300** (0–300 V Meter Scale) —Metered knob assembly only. Price Each..... **$58.28**


21-40

40-VOLT POWERSTAT VARIABLE TRANSFORMERS

Meet the high current, low voltage requirements of low voltage power supplies and a wide range of transistor circuit applications. All types are open construction. Individual units in ganged assemblies have the same electrical ratings as single units of the corresponding type number.

SINGLE PHASE

Superior Type	Line Volts	Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each Manual	Price Each Motor* Driven
*10B-40	40	60	0–40	6	.24	$ 19.99	.....
10B-40-2†	40	60	0–40	6	.24	60.90	.....
10B-40-3†	40	60	0–40	6	.24	96.22	.....
*21-40	40	60	0–40	15	.6	27.64	$177.64
21-40-2†	40	60	0–40	15	.6	78.56	228.56
21-40-3†	40	60	0–40	15	.6	123.29	273.29
116BU-40	40	60	0–40	25	1.0	41.30	191.30
116BU-40-2†	40	60	0–40	25	1.0	103.53	253.53
116BU-40-3†	40	60	0–40	25	1.0	147.38	297.38

*Add type number prefix for full range travel motor speed desired: **5M** for 5 sec.; **15M** for 15 sec.; **30M** for 30 sec.; **60M** for 60 sec. (for example, **15M**21-40). †Ratings given apply separately to each unit in assembly.

DOUBLE WOUND POWERSTAT VARIABLE TRANSFORMERS WITH ISOLATED SECONDARY

POWERSTAT type LW136B is a double wound assembly with an isolated secondary. When ordering (*) motor driven assemblies prefix type number with desired speed of either 5, 15, 30 or 60 seconds for full range travel and letters MD (for example, 5MDLW136B-3). Any of the ratings given below are possible simply by using the proper terminal connections. These are only a few of the many ratings that can be obtained. Data sheet on request.

Superior Type	Line Volts	Output Volts	Output Max. Amps	Output Max. kVA	Price Each Manual	Price Each Motor* Driven
*LW136B	120	0–30	25	.75	$131.71	$331.71
For	120	15–0–15	35	.52		
50/60 Hz	240	0–30	25	.75		
single	240	15–0–15	35	.52		
phase	120	105–135	35	4.7		
	107–137	120	35	4.2		
	240	225–255	35	8.9		
	226–256	240	35	8.4		
LW136B-3	240	210–270	35	16.4	449.44	649.44
For 60 Hz	214–260	240	35	14.6		
three-	480	450–510	35	31.0		
phase	452–512	480	35	29.1		

ENCLOSED LABORATORY POWERSTAT VARIABLE TRANSFORMERS

N21

N116BK

Enclosed laboratory models are equipped with grounded NEMA cord/plug assembly, on-off switch, pilot light, fuse and output receptacle. Integral handle; recessed controls. Slot, provided at the rear, accepts wall hanger bracket, supplied. Types N116BK and N116BLK are supplied with metered knobs for convenience in measuring load voltage without need for a separate voltmeter. The knob voltmeter remains stationary as the knob rim is turned to vary the voltage. For 120-volt, single phase service.

Superior Type	Input Freq., Hz	Output Volts	Output Amps	Output kVA	Price Each
*N10B	60	0–132	2.25	0.30	$ 36.75
*N21	50/60	0–140	4.5	0.63	47.25
*N116B	50/60	0–140	10	1.4	57.75
N116BK	50/60	0–140	10	1.4	118.15
N116BL	50/60	0–120	10*	1.2*	57.75
N116BLK	50/60	0–120	10*	1.2*	118.15

*Ratings for constant current load; for constant impedance load, ratings are 13 amps, 1.6 kVA.

COMPACT Q TYPE POWERSTATS

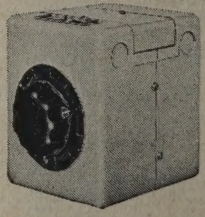
Ideally suited for applications where space is a critical factor. Compact, square frame units available only in manually operated open construction assemblies. Removable shafts may be extended from either end of unit.

SINGLE PHASE

Superior Type*	Line Volts	Input Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each
*Q116U	120	50/60	0–120 0–140	9 9	1.1 1.3	$ 31.75
*Q117U	120	60	0–120	10	1.2	34.10
*Q216U	240 120	50/60	0–280 0–260	3.5 3.5	0.98 0.42	38.22
*Q217U	240	60	0–240	5	1.2	40.57
Q116U-2	240	50/60	0–240 0–280	9 9	2.2 2.5	84.99
Q117U-2	240	60	0–240	10	2.4	92.17
Q216U-2	480 240	50/60	0–560 0–560	3.5 3.5	2.0 0.85	98.15
Q217U-2	480	60	0–480	5	2.4	104.14
		THREE PHASE				
Q116U-2	120	50/60	0–120 0–140	9 9	1.9 2.2	$ 84.99
Q117U-2	120	60	0–120	10	2.1	92.17
Q216U-2	240 120	50/60	0–280 0–280	3.5 3.5	1.7 0.74	98.15
Q217U-2	240	60	0–240	5	2.1	104.14
Q116U-3	240	50/60 60	0–240 0–280	9 9	3.8 4.4	118.50
Q117U-3	240	60	0–240	10	4.2	125.69
Q216U-3	480 240	60 60	0–560 0–560	3.5 3.5	3.4 1.5	135.26
Q217U-3	480	60	0–480	5	4.2	144.84

*Number suffix indicates ganged assembly; number is no. of units.

EN TYPE POWERSTATS



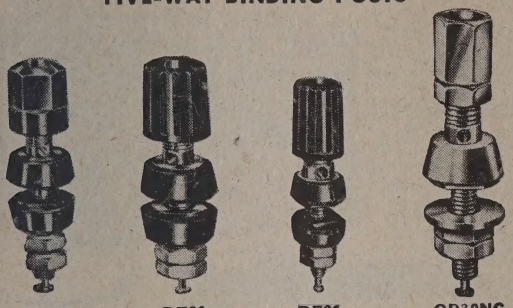
Wide application and mounting flexibility. Housed in lightweight, functional aluminum enclosures that permit easy installation, wiring and servicing. Single units and ganged assemblies available for 120, 240 and 480 volt, single and three phase service with loads up to 6.0 kVA. Data sheet on request. Single units below size: 5¾" w. x 6" d. x 6 13/16" h. Shipping Weight, 15 lbs.

Superior Type†	Input Volts	Input Freq.	Output Volts	Output Amps	Output kVA	Price Each
EN116B	120	50/60	0–140	8	1.1	$63.44
EN117B	120	60	0–120	10*	1.7*	65.84
EN216B	240	50/60	0–280	3	0.84	71.22
EN217B	240	60	0–240	4.4*	1.4*	73.62

*Current is maximum for constant-current load; kVA is maximum for constant-impedance load. †For single phase service.

● **AVAILABLE OFF-THE-SHELF FROM STOCK**

FIVE-WAY BINDING POSTS



DF30 DF31 DF21 GP30NC

Design permits connection by (1) standard banana plug; (2) clip-lead to shaft; (3) wire looped around the shaft and clamped; (4) wire permanently clamped through center hole; (5) clamped spade lug connection. Binding posts can be mounted and securely locked in any panel from 1/16" to 1/4" thick. Adapter spacers are available for mounting in thinner panels. Current carrying parts of hex nut, fluted nut, miniature and fused types are of gold plated brass. Types with nickel-plated brass parts are available on special order. All metal grounding type binding post is made of finely-machined brass nickel-plated and polished. When ordering hex nut, fluted nut or miniature types, specify color by suffix: **•BC**—black; **YC**—yellow; **•RC**—red; **BLC**—blue; **GNC**—green; or **•WTC**—white.

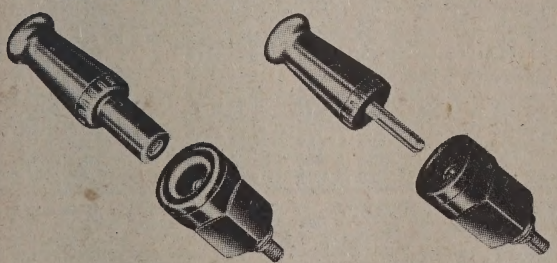
Superior Type DF30 Hex Nut—Rated 30 amps, 1000 V working. Durable, nylon plastic insulating parts meet MIL-M-20693A, Type IV. Net Each..... **$0.65**

Superior Type DF31 Fluted Nut—Insulating parts of Lexan polycarbonate resin have low loss and power factor; high voltage insulation and impact strength. Rated 30 amps, 1000 V working. Net Each..... **$0.65**

Superior Type DF21 Miniature—Smaller in size. Ideal for use on electrical and electronic apparatus where space is limited. Plastic parts meet MIL-M-20693A, Type IV. Rated 15 amps, 1000 V working. Available in fluted nut design only. Net Each..... **$0.65**

Superior Type GP30NC Grounding—Designed for making rapid connections to ground. Functional design complements other hex nut Superior 5-Way® Binding Posts. Complete with washer and twin 10-32 hex nut. All metal construction. Net Each..... **$0.65**

SUPERCON® ELECTRICAL CONNECTORS



These socket and pin types of plugs and receptacles incorporate many new features. Wiring connections can be soldered or solderless. Two cable fastening screws permit accommodation of a wide range of cable sizes for many needs. Current carrying parts are of gold plated brass for stable electrical contact and resistance to corrosion. Molded plastic parts offer high dielectric strength, durability, color stability, self-locking action, resistance to heat and corrosion. Plug grips of two-piece threaded construction for quick assembly. Receptacles have color-matching caps and bodies for circuit identification in front and back of panel. Plug and receptacles available in red, white, blue, yellow, black or green (see footnote below). Available in 25, 50, 100 and 250 amp ratings.

SOCKET RECEPTACLES **SOCKET PLUGS**

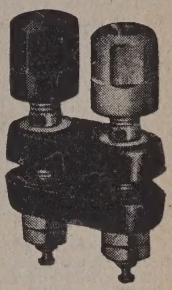
Superior Type*	Rated Amps	Net Each	Superior Type*	Rated Amps	Net Each
RS25G	25	$3.40	PS25G	25	$3.40
RS50G	50	4.40	PS50G	50	4.40
RS100G	100	5.75	PS100G	100	5.75
RS250G	250	9.90	PS250G	250	9.90

PIN RECEPTACLES **PIN PLUGS**

Superior Type*	Rated Amps	Net Each	Superior Type*	Rated Amps	Net Each
RP25G	25	$3.40	PP25G	25	$3.40
RP50G	50	4.40	PP50G	50	4.40
RP100G	100	5.75	PP100G	100	5.75
RP250G	250	9.90	PP250G	250	9.90

*Add suffix to indicate color: **•B**, black; **Y**, yellow; **•R**, red; **BL**, blue; **GN**, green; **WT**, white (RS25G**B**, black; RP25G**GN**, green).

DOUBLE ASSEMBLY FIVE-WAY® BINDING POSTS

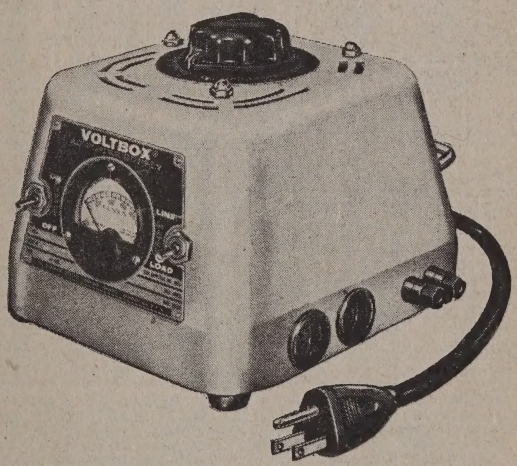


For use on instrument and equipment panels requiring binding posts that mount on 3/4" centers. Rugged, self-contained assemblies; more accurate, faster and simpler usage than two individual binding posts. Fixed-panel-insulator of low-loss Lexan* plastic molded over brass cores frozen to shafts. Shoulders are raised for firm seating in mounting holes. Sliding panel mounting insulator of Lexan* plastic molded over brass cores; seats securely in mounting holes. All brass parts are gold plated. Rated for current carrying capacity of 30 amps, 1000 V working. Mount in any panel 1/16"–1/4" thk. High impact strength from −100° F to +275° F; ductility rather than brittleness under impact. Available in color code combination of black and red.

Superior Type DF30-2-BRC—
Net Each..... **$1.50**

*Registered GE trademark.

VOLTBOX® AC POWER SUPPLY



Voltbox AC power supply, Type UC1MB, compact, versatile test instrument for use in chemical, physical, electrical and other laboratories as well as factory and plant inspection departments. Has all components required for tests involving variable AC voltage. Components include Powerstat® variable transformer, direct reading voltmeter, three output receptacles, two Superior 5-Way® binding posts, "on-off" switch, line-load meter switch, renewable fuse, and six-foot cord and plug. Powerkote coils are incorporated for long life and higher output ratings. All are enclosed in a cast aluminum case equipped with carrying handle. Connects to any convenient receptacle of the proper voltage and frequency. When "on-off" switch is turned to "on", rotation of the knob will deliver an adjustable output voltage to the output receptacles and insulated binding posts. Line-load meter switch is placed on "Line" to read the line voltage and on "Load" to read the load voltage. Readings can be taken at any time without disturbing the test or operation being performed. Has standard dial graduated 0–100 and angle of rotation of 317.5°. Rated for input of 120 volts, 50/60 Hz, single-phase with output of 0 to 140 volts, 10 amps, 1.4 kVA.

Superior Type UC1MB Voltbox AC Power Supply—
Net Each..... **$127.89**

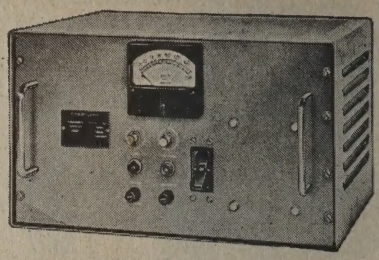
•AVAILABLE OFF-THE-SHELF FROM STOCK

Superior

REGULATORS, CONTROL, OVERVOLTAGE DETECTOR

STABILINE® AUTOMATIC VOLTAGE REGULATORS

Maintain a constant output voltage regardless of line or load changes. Several series are available for requirements from 0.25 to 275 kVA. A complete line of Stabilines for use on frequencies of 400 Hz and higher also available. Bulletins giving complete data on all series are available on request.



TYPE EMT4106C

ELECTRO-MECHANICAL TRANSISTORIZED SERIES

Type EMT: Utilize transistorized control circuits, motor-driven Powerstat® variable transformers and buck-boost transformers to regulate line voltage. Widely used in industrial applications or where constant output voltage is required with zero waveform distortion. EMT Series types are offered in ratings from 2.3 to 118 kVA. For heavier load requirements, models of the EMS Series (not listed) are offered in ratings from 25 to 275 kVA. **Type EMK:** Stabiline automatic voltage regulators offer an extremely fast correction rate. Rugged construction assures dependable performance with little or no maintenance. Efficiency, approx. 99%; rated accuracy, ±0.75% for all variations of line voltage or lead current within the stated range of the unit.

TYPES IES9103B AND IES9203B

INSTANTANEOUS ELECTRONIC SOLID STATE SERIES

Highly accurate, fast-correcting units feature solid state circuitry which permits smaller and lighter units than comparable tube-type regulators. Other benefits include low distortion, high efficiency (up to 95%) and wide operating frequency range. Speed of correction can be considered instantaneous for most applications. Will maintain output voltage within 100 mV rms band for any combination of rated input voltage and/or load from 1.0 to 0 power factor lagging. With the exception of types IES9110, IES9115, IES9210 and IES9215, all models can be rack mounted by removing the cabinet feet.

Superior Number	Nom'l Output Voltage	AC Hz	Input Voltage Range*	Output Voltage Range	Max. Output Amps	Rated Output kVA	Correction Rate: Sec./Volt†	Approx. Wt., Pounds Net	Approx. Wt., Pounds Shpg.	Superior Number	Net Each
•EMT4102B‡■	115	50/60	95–135	110–120	20	2.3	.075	54	63	EMT4102B‡■	$ 723.76
•EMT4106C■	115	50/60	95–135	110–120	57	6.6	.075	87	95	EMT4106C■	844.75
•EMT4112B§■	115	50/60	105–125	110–120	114	13.0	.15	90	98	EMT4112B§■	844.75
•EMT4115B	115	50/60	95–135	110–120	144	16.6	.125	258	280	EMT4115B	1070.38
EMT4104B#*	120	60	108–137	110–120	35	4.2	.10	47	52	EMT4104B#*	857.29
•EMT4207B‡	230	50/60	195–255	220–240	36	8.3	.083	153	175	EMT4207B‡	929.77
•EMT4228C^	230	50/60	205–250	220–240	130	29.9	.111	253	275	EMT4228C^	1155.40
EMT4407BO	460	50/60	400–520	440–480	20	9.2	.041	165	187	EMT4407B*	1128.15
EMT4418BO	460	50/60	400–520	440–480	45	20.7	.041	263	285	EMT4418B*	1258.95
EMT6210YBI♦*	230	50/60	195–255	220–240	33	13.1	.083	372	453	EMT6210YBI♦*	1662.25
EMT6215YBI♦*	230	50/60	195–255	220–240	48	19.1	.083	374	455	EMT6215YBI♦*	1722.20
•EMT6220YBI♦	230	50/60	195–255	220–240	63	25.1	.083	378	457	EMT6220YBI♦	1853.00
•EMT6245YBI♦	230	50/60	195–255	220–240	145	57.8	.25	835	969	EMT6245YBI♦	2501.55
EMT6270DBI♦*	230	50/60	195–255	220–240	188	74.9	.25	795	939	EMT6270DBI♦*	3150.10
EMT6412YB♦*	460	50/60	400–520	440–480	18	14.3	.041	350	430	EMT6412YB♦*	1787.60
EMT6417YB♦*	460	50/60	400–520	440–480	24	19.1	.041	370	450	EMT6417YB♦*	1918.40
•EMT6425YB♦	460	50/60	400–520	440–480	35	27.9	.041	390	470	EMT6425YB♦	1883.52
EMT6450YB♦*	460	50/60	400–520	440–480	75	59.8	.125	771	905	EMT6450YB♦*	2757.70
EMT6475YB♦	460	50/60	400–520	440–480	100	75	.125	820	954	EMT6475YB♦	2997.50
•EMT64100YB♦	460	50/60	420–500	440–480	148	118	.188	841	975	EMT64100YB♦	3090.15
EMK4105■I*	115	50/60	105–125	110–120	46	5.3	.04	69	79	EMK4105■I*	851.29
IES91005B	115	50/60	95–135	110–120	4.4	0.5	.....	53	57	IES91005B	563.53
•IES9101B	115	50/60	95–135	110–120	8.7	1.0	.....	68	72	IES9101B	630.02
•IES9103B	115	50/60	95–135	110–120	26.1	3.0	.....	131	136	IES9103B	970.10
•IES9106B	115	50/60	95–135	110–120	52.2	6.0	.....	167	181	IES9106B	1117.25
IES9110B	115	50/60	95–135	110–120	87.0	10.0	.....	360	380	IES9110B	1955.00
•IES9115B	115	50/60	95–135	110–120	130	15.0	.....	360	382	IES9115B	2100.00
IES9203B	230	50/60	195–255	220–240	13	3.0	.....	120	126	IES9203B	1139.05
•IES9206B	230	50/60	195–255	220–240	26.1	6.0	.....	139	153	IES9206B	1237.15
IES9210B	230	50/60	195–255	220–240	43.5	10.0	.....	330	350	IES9210B	2125.50
IES9215B	230	50/60	195–255	220–240	65	15.0	.....	350	372	IES9215B	2577.85

*At nominal output voltage; input voltage range shifts proportionally with output voltage setting. †Motor drive travel time in seconds divided by input range in volts. ‡Can also be operated with an input range of 105–125 volts, output rating of 40 amps, 4.6 kVA and correction rate of .15 sec/V. §Can also be operated with an input range of 95–135 volts, output rating of 57 amps, 6.6 kVA and correction rate of .075 sec/V. #60 Hz only. ‡Can also be operated with a nominal 208 volt output, input range of 177–230 volts and output range of 200–216 volts. ^Can also be operated with a nominal 208 volt output, input range of 186–226 volts and output range of 200–216 volts. ■Also available as rack models (add suffix R); prices on request. ♦Three-phase types; all others single-phase. ICan also be operated on an input range of 95–135 volts with rating of 23 amps, 2.6 kVA and correction of .02 sec/V. *Units subject to setup charges available on inquiry.

OVK100 Overvoltage Detector

STABILINE OVERVOLTAGE DETECTOR

Solid state voltage level detector protects connected equipment used with Stabiline Automatic Voltage Regulators in the event of an overvoltage condition. When the voltage being monitored exceeds a preset level, the device actuates an SPDT relay that can be used to actuate protective equipment or a warning device. Relay contacts are rated 5 amps, resistive. Can be used in latching or nonlatching connection: In latching connection, the relay closes when an overvoltage condition exists and remains closed even when the overvoltage condition is removed; in nonlatching connection, it closes during overvoltage, but will automatically reset when overvoltage condition is removed. Trip level is adjustable, 110 to 150 volts. Operation at higher voltages is possible with use of an external stepdown transformer. Size: 4 7/16" w. x 3 5/8" d. x 5 1/16" h. overall.

Superior Type OVK100 Overvoltage Detector—Net Each.....**$122.00**

FR501 Controller

STABILINE FULL-RANGE REGULATOR CONTROLLER

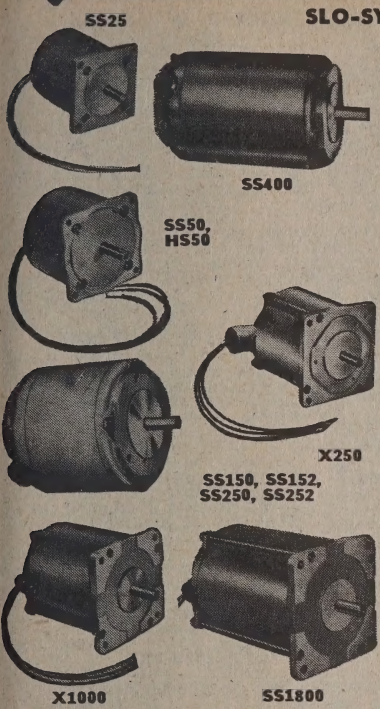
Designed for use with motor-driven Powerstat® variable transformers to maintain constant output voltage. Adjustable to any value within the full range of the Powerstat used. Regulates output from any motor-driven Powerstat rated 120 or 240 volts, 50/60 Hz, single-phase. Dependent on Powerstat used, unit may be used for 3-phase applications maintaining one line-to-neutral or one line-to-line voltage. Can also be used in 480 volts, 50/60 Hz, 3-phase, but an auxiliary step-down transformer is required for sensing line-to-line voltage. Voltage output remains within 4-volt band when used with 240 V types. Voltmeter on front panel monitors Powerstat output in 0–300 volt range. Other controls include voltage adjust, on-off switch, pilot indicating when unit is energized, motor damping control and three fuses. Size: 11" h. x 6" w. x 7" d., overall. Mtg. centers 4 1/2" x 10 1/4" maximum.

***Superior Type FR501 Regulator Controller**—Net Each.....**$324.00**

●**AVAILABLE OFF-THE-SHELF FROM STOCK**

Superior Slo-Syn Motors

SLO-SYN® SYNCHRONOUS/STEPPING MOTORS



Units may be used as DC stepping motors and start at full-rated torque. Slo-Syn synchronous motors are permanent magnet types (AC) having instant start, stop and reverse characteristics and a basic shaft speed of 72 rpm with 60 Hz applied. Adaptable for use as a DC stepping motor or incremental positioning device that can be stepped 200 times per revolution of the motor shaft. Negligible overshoot; no ratchets or detents are used. Single-pole, three-position switch gives complete forward, reverse and "off" control because motor has only three leads. Starts or stops in less than 0.025 second or, approximately 1.5 Hz. No need for mechanical or electrical braking; stops in less than 5° of motor shaft rotation. Starting and operating currents nearly identical; no excessive inrush current when motor is turned on. Lubricated-for-life, sealed ball-bearings. Types with **X** in number are explosion-proof and UL Approved for Class 1, Group D service.

SPECIAL DUTY TYPES available. Request latest SLO-SYN literature covering:

Double End: Have output shafts projecting from both ends. Types available in all cataloged torque ratings. Those with 50, 150, 250 and 400 oz.-in. ratings can also include planetary gear assemblies if desired.
200 RPM: Types TS25, TS50 and TS52 are similar to standard models, but operate at a synchronous speed of 200 rpm and take 5° steps when used for DC stepping.
28.8 RPM: Type LS50 runs at 28.8 rpm at 60 Hz without stepdown gearing. Makes 500 steps/rev as a DC stepping motor. Torque rating, 60 oz.-in. Stops with 25 msec.

MOTOR UNITS

Specifications at 50/60 Hz, one phase, 72 rpm at 60 Hz.

Superior Type	Torque (Oz.-In.)	V	Max. Amps	Resistor, Ohms	Capacitor, μF	Shpg., Lbs.	Net Each
•SS25	25	120	0.1	500 ±5%, 5 W	0.75 ±6%, 330 VAC	1.5	$ 69.55
•SS50†	50	120	0.3	250 ±5%, 25 W	2.6 ±6%, 330 VAC	3.5	59.92
•SS150‡	150	120	0.4	250 ±5%, 25 W	3.75 ±6%, 330 VAC	8	71.69
SS152§	150	240	0.2	1000 ±5%, 25 W	1.0 ±6%, 660 VAC	8	77.04
•SS250	250	120	0.6	150 ±5%, 50 W	6.5 ±6%, 330 VAC	8	98.44
•X250	250	120	0.6	150 ±5%, 50 W	6.5 ±6%, 330 VAC	9	154.08
•SS252	250	240	0.3	750 ±5%, 50 W	1.75 ±6%, 660 VAC	8	102.72
SS400	400	120	0.6	150 ±5%, 50 W	6.5 ±6%, 330 VAC	13.75	155.15
•X1000*	1000	120	3.0	65 ±5%, 160 W	30.0 ±5%, 330 VAC	33	304.95
•X1500	1500	120	3.0	50 ±5%, 375 W	30.0 ±6%, 330 VAC	40	337.05
SS1800*	1800	120	4.0	40 ±5%, 280 W	60.0 ±6%, 330 VAC	50	413.02

*For 60 Hz operation only. †‡§Available with resistor-capacitor integrally mounted on end of motor, add suffix **RC** to number and †**$29.00**, ‡**$28.00**, §**$26.00** to price.

PLANETARY GEAR TYPES

Planetary Assembly Suffix	Gear Ratio	Approx. Speed* rpm	Output Torque			
			SS50	SS150, SS152	SS250, SS252, SS400	X250
P1	4-⅓	16.6	120 oz.-in.	400 oz.-in.	650 oz.-in.	650 oz.-in.
P2	21-⅔	3.32	600 oz.-in.	2000 oz.-in.	.....	2000 oz.-in.
P3	108-⅓	0.665	2000 oz.-in.	2000 oz.-in.	.....	2000 oz.-in.

*Exact speed may be calculated from basic motor speed of 72 rpm and given ratio.

PLANETARY GEAR ASSEMBLIES

Standard types of Slo-Syn synchronous/stepping motors with special gear planetary assemblies are available. Speed reduction assembly is completely enclosed in dust-proof housing mounted on shaft end of motor. Load is evenly distributed over three special nylon gears. Planetary gear shaft is ball-bearing mounted; self lubricated nylon gears. To order, basic type number must be suffixed with the desired planetary gear assembly number. For example, SS50-**P1**. See tables at right for specifications of planetary gear types and price schedule.

PRICE SCHEDULE FOR PLANETARY GEAR ASSEMBLIES

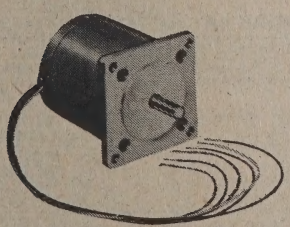
Plan. Assem. Suffix	Net Each — Planetary Gear Assemblies for Motor Types						
	SS50	SS150	SS152	X250	SS250	SS252	SS400
P1	$ 92.02	$105.93	.....	$191.53	$131.61	.....	$191.53
P2	94.16	105.93	.....	191.53	.....	.....	.....
P3	107.00	.....	.....	.....	.....	.....	.....

SLO-SYN® PRECISION STEPPING MOTORS

Designed for phase-switched DC stepping duty in applications requiring greater positioning speed and accuracy than possible with standard SLO-SYN motors. Make 200 steps per shaft revolution with each step 1.8°; accurate within ±3% noncumulative. They may be operated at speeds greater than 500 steps per second if accelerating and decelerating circuits are used. With proper circuitry, the motors may be operated at speeds of 1000 steps per second or higher without missing any steps. ***Features Viscous Damping,** a fluid system that approaches critical damping.

Superior Type	Volts DC	Amps/ Winding	Net Each
•HS25	5.4	1.5	$143.38
•HS50	3	4	129.47
•HS50D*	3	4	184.04
•HS50L	4.5	3.5	175.48

M SERIES SLO-SYN® STEPPING MOTORS



The M Series SLO-SYN motors represent the most advanced permanent magnet stepping motor design available. Offer the most complete range, both in torque ratings and in size configuration. Motors provide the highest torque per pound and torque to inertia ratios; can be driven at rates above 20,000 steps per second with a minimum of power input. Standard drives available for rates to 5,000 steps per second. Higher rates can be supplied on special order. Class B insulation; may be operated at an ambient temperature range of −40° C to +65° C. Continuous duty temperature rise is 65° C. Stepping increment is 1.8° with a choice of ±5% or precision ±3% accuracies available as standard. An eight-step input sequence gives a stepping increment of 0.9°.

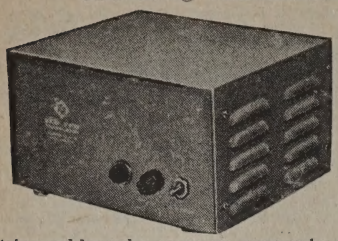
Superior Type	Accuracy	DC Volts	Amps per Winding	Holding Torque* Oz.-In.	Residual Torque† Oz.-In.	Shaft Dia. Inches	Shpg. Wt. Lbs.	Net Each
•M061-FC08	±3%	1.3	3.9	53	5	.250	1½	$ 91.35
•M061-FD08	±5%							81.90
•M061-FC02	±3%	5.1	1.0	53	5	.250	1½	91.35
•M061-FD02	±5%							81.90
•M062-FC09	±3%	1.7	4.7	100	8	.250	2½	107.10
•M062-FD09	±5%							97.65
•M062-FC04	±3%	4.3	1.8	100	8	.250	2½	107.10
•M062-FD04	±5%							97.65
•M063-FC09	±3%	2.2	4.6	150	10	.250	3¼	126.00
•M063-FD09	±5%							116.55
•M063-FC06	±3%	3.4	2.9	150	10	.250	3¼	126.00
•M063-FD06	±5%							116.55
•M091-FC09	±3%	1.8	4.8	150	5	.375	4	86.10
•M091-FD09	±5%							76.65
•M091-FC06	±3%	2.9	3.05	150	5	.375	4	86.10
•M091-FD06	±5%							76.65
•M092-FC09	±3%	2.5	4.6	300	10	.375	6¼	95.55
•M092-FD09	±5%							86.10
•M093-FC11	±3%	2.8	5.5	450	15	.375	9	120.75
•M093-FD11	±5%							111.30
•M093-FC14	±3%	2.2	7.0	450	15	.375	9	120.75
•M093-FD14	±5%							111.30
•M111-FD12	±5%	2.3	6.1	625	15	.375	9¼	136.50
•M111-FD16	±5%	1.7	8.0	625	15	.375	9¼	136.50
•M112-FJ12	±5%	3.6	6.1	1125	30	.625	16¼	245.70
•M112-FJ25	±5%	1.8	12.7	1125	30	.625	16¼	245.70

*Both windings energized at rated current. †Approximate value with neither coil energized.

•AVAILABLE OFF-THE-SHELF FROM STOCK.

Superior Slo-Syn Motors, Drives

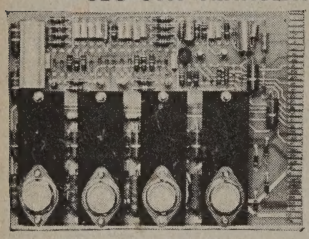
SLO-SYN® TRANSLATOR ST1800B



For pulse-to-step conversion of data to bifilar motors. Converts low-level signal pulses or square waves into the correct switching sequence needed to drive a SLO-SYN motor at the desired stepping rate to 500 steps/sec. Input is 105–125 volts AC, 1.5 amps. Signal input impedance is 500 ohms. Input may be triggered by pulse or square wave or by an external switch. Operates in ambients from 0° C to +40° C. Ideal for wide range of programmed positioning and indexing functions. Approx. shipping weight, 12 lbs. Use with 1.8° step angle motors HS25, HS50, HS50L, SS25-1001, SS50-1008, SS150-1010, SS250-1027, SS400-1021, SS1800-1007, X250-1003 and X1500-1001; 0.72° step angle motors LS50-1005 and LS50-1006; and 5° step angle motors TS25-1008 and TS50-1001.

•Superior Type ST1800B—Net Each..... **$325.00**

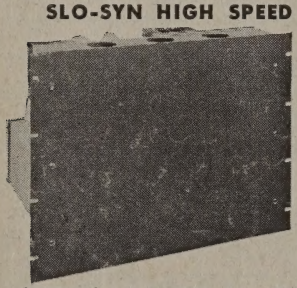
SLO-SYN TRANSLATOR MODULES



Plug-in printed circuit boards with logic capabilities for stepping SLO-SYN motors. STM1800 and STM1800C are basic translators capable of bi-directional operation of motors. Models with V suffix, i.e., STM1800V and STM1800CV, are similar but have built-in oscillators to provide triggering signals. Potentiometers are supplied with V-suffixed models for adjusting oscillator speed. STM1800 and STM1800V have speeds to 500 steps/second and are used with HS and bifilar motors. STM1800C and STM1800CV have speeds to 2000 steps/second and are used with M Series motors. Types STM1800 and STM1800V require 8 amps power supply transformer T5934-G2. Types STM1800C and STM1800CV require 10 amp power supply transformer T6382.

•Superior Type STM1800—Net Each..... **$79.00**
•Superior Type STM1800V—Net Each..... **89.00**
•Superior Type T5934-G2—8 Amp Power Supply Transformer. Use with same motors as ST1800. Net Each..... **$ 39.00**
•Superior Type STM1800C—Net Each..... **129.00**
•Superior Type STM1800CV—Net Each..... **139.00**
•Superior Type T6382—10 Amp Power Supply Transformer. Use with M Series motors M061-FC08, M061-FD08, M062-FC09, M062-FD09, M063-FC09, M063-FD09, M091-FC09, M091-FD09, M092-FC09, M092-FD09, M093-FC11, M093-FD11, M111-FD12 and M112-FJ12. Net Each..... **$39.00**

SLO-SYN HIGH SPEED TRANSLATORS



Used with certain precision models (with prefix HS) and M series (models with prefix M) motors to provide high stepping speeds. High speed translator HTR400 has 50 to 2000 step/sec speed; HTR103RT has 100 to 3000 step/sec speed, and HTR105RT has 100 to 5000 step/sec speed. Acceleration and deceleration is adjustable. Each pulse received from a built-in oscillator or from an external source will cause the translator to advance the motor one step. Triggering pulses can be supplied by tape readers, computers, oscillators, etc. Ambient temperature, 0° C to 40° C, operating; −55° C to 85° C, storage. Rack mounted design with plug-in solid-state circuitry.

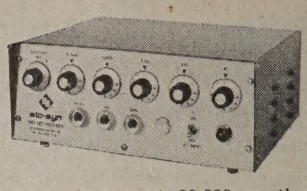
•Superior Type HTR400—Speeds up to 2000 steps/sec. Used with Motors HS25, HS50, HS50L and HS400B-1003. Net.. **$890.00**
•Superior Type HTR103RT—Speeds up to 3000 steps/sec. Use with M112-FJ25 motor. Net Each..... **$1230.00**
•Superior Type HTR105RT—Speeds up to 5000 steps/sec. Use with M Series motors M061-FC02, M061-FD02, M062-FC04, M062-FD04, M063-FC06, M063-FD06, M091-FC06, M091-FD06, M092-FC09, M092-FD09, M093-FC14, M093-FD14 and M111-FD16. Net Each..... **$1075.00**

SLO-SYN BUFFERED TRANSLATORS

Drives certain M Series (models with M prefix) motors in response to commands from computer, digital control or other device which operates at a fixed pulse rate. Acceleration and deceleration not required from pulse source. Translator stores incoming pulses and feeds them to the motor, automatically accelerating and decelerating at a rate compatible with the response characteristics of the motor. Acceleration and deceleration rates are approximately 6000 steps/sec² for BTR103RT and 15000 steps/sec² for BTR105RT. Motor is driven one step for each pulse received from control unit. BTR103RT has speed of 100 to 3000 steps/sec; BTR105RT has speed of 100 to 5000 steps/sec. Rack mounted only.

Superior Type BTR103RT—Speeds up to 300 steps/sec. Use with M112-FJ25 motor. Net Each..... **$1450.00**
Superior Type BTR105RT—Speeds up to 5000 steps/sec. Use with same motors as HTR105RT. Net Each..... **$1295.00**

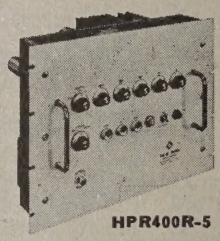
SLO-SYN PRESET INDEXER SP1800B-5



Controls indexing operations where bifilar motors are used for positioning. Automatically provides the correct switching sequence needed to drive motors the required number of steps. Has provision for actuating external equipment needed to perform related operations. Dials on control panel can be set to provide desired number of steps up to 99,999 counting range. Operates in ambients from 0° C to +40° C. Input current 1.25 amps. Also requires series dropping resistors. Approx. shipping weight, 19 lbs.

•Superior Type SP1800B-5—Speeds up to 500 steps/sec. Use with same motors as ST1800B. Net Each..... **$925.00**

SLO-SYN HIGH SPEED PRESET INDEXERS



HPR400R-5

Used with certain precision (models with HS prefix) and M Series (models with M prefix) motors in indexing and other positioning operations. HPR400R-5 has 50 to 2000 steps/sec speed; HPI 153RT has 100 to 3000 step/sec speed; and HPI 155RT has 100 to 5000 step/sec speed. Decade counter controls on front panel permit selecting positioning increments up to 99,999 counting range. On index command, unit drives the motor the prescribed number of steps and then actuates a relay which controls external equipment. Count can also be set by computer or external decade switches. Ambients: 0° C to 40° C operating; −55° C to 85° C storage. Rack mounted only.

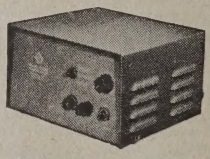
•Superior Type HPR400R-5—Speeds up to 2000 steps/sec. Use with motors HS25, HS50, HS50L and HS400B-1003. Net Each..... **$1400.00**
•Superior Type HPI 153RT—Speeds up to 3000 steps/sec. Use with M112-FJ25 motor. Net Each..... **$1825.00**
•Superior Type HPI 155RT—Speeds up to 5000 steps/sec. Use with same motors as High Speed Translator HTR105RT. Net Each..... **$1680.00**

BACKLASH TAKE-UP BOARDS

Cause motor to take additional steps when travel is in minus direction, then same number of steps in plus direction. Motor takes only the required steps when travel is in plus direction.

Superior Type BHM144134-G1—For use with HPR400R-5. Net Each..... **$95.00**
Superior Type BHM144087-G4—For use with HPI 153RT and HPI 155RT. Net Each..... **$95.00**

SLO-SYN ADJUSTABLE SPEED DRIVE ST1800BV



Essentially a translator with a built-in oscillator to supply triggering signals. The oscillator frequency can be adjusted to vary the speed from 4 steps/sec up to 500 steps/sec or the maximum permissible with the motor used. Have same other characteristics and applicable motors as SLO-SYN Translator ST1800B.

•Superior Type ST1800BV—Net Each..... **$395.00**

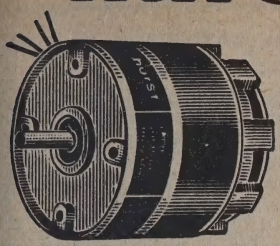
SLO-SYN BIFILAR MOTORS

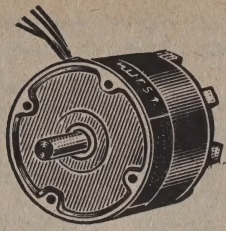
Superior Type	Stepping Application Ratings		Net Each
	DC Volts	Amps per Winding	
•TS50-1001*	3	4.0	$131.61
•SS25-1002*	5.9	.88	109.14
•SS25-1001*	11.8	.44	109.14
•SS25-1011	23.6	.22	109.14
SS50-1009*	5.5	1.3	102.72
•SS50-1008*	8.0	0.85	100.58
•SS50-1001	14.0	0.53	100.58
SS50-1007	35.0	0.21	102.72
•SS150-1010*	10.0	1.25	113.42
SS150-1017	25.0	0.5	115.56
•SS250-1027*	4.6	3.1	139.10
•SS250-1002*	9.0	1.55	139.10
•SS250-1004	22.5	0.61	139.10
X250-1003*	4.6	3.1	196.88
X250-1002*	9.0	1.55	196.88
SS400-1021*	5.3	3.4	196.88
SS400-1002	8.3	2.2	196.88
SS400-1006	21.2	0.85	196.88
LS50-1005	3.0	4.0	207.58
LS50-1006	12.0	1.0	207.58
X1500-1001	12.0	3.8	381.99
X1000-1002	10.0	3.6	344.54
•SS1800-1007	11.5	3.9	451.54
SS1800-1002	14.4	3.1	455.82
SS1800-1006	23.0	2.0	455.82

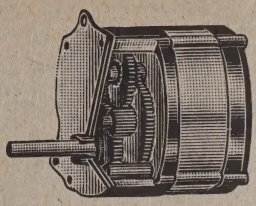
*Dropping resistor required when used with translator or preset indexer.

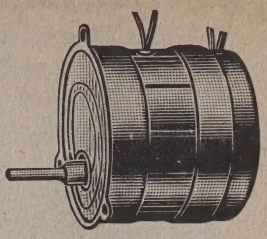
•AVAILABLE OFF-THE-SHELF FROM STOCK

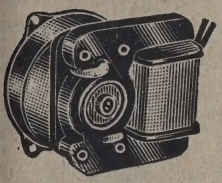
hurst Synchronous Motors


HB "Honey Bee"


MB "Mini-Bee"


GA


CA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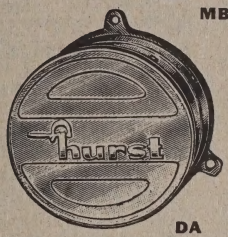
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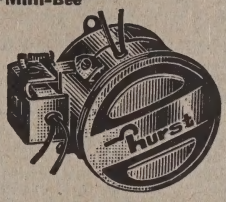
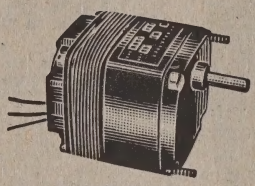
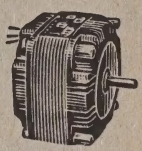

AR-DA, PC-DA


K-DET Geared


K-DET Direct Drive

MODEL HB "HONEY BEE" 1/35 HP MOTOR

Heavy duty hysteresis synchronous motor for video recording, instrumentation, data handling, tape recording, telemetering and turntable applications. High torque rating in small size; inverted rotor design reduces flutter. Dynamically balanced rotor; sealed ball bearings; lifetime lubrication. **Temp. Rise:** 40° C, full load. **Power Required:** 115 VAC, 60 Hz. **Shaft:** 5/16" dia. x 1" stainless steel. **Capacitor:** Supplied. **Size:** 3½" dia. x 3 3/16" lg. Leads 12" lg. Four 10-32-2B UNF tapped mtg. holes equally spaced on 2.625" dia. bolt circle.

Speed rpm	hp Rating	Torque, In.-Oz. Locked Rotor	Pull-In	Pull-Out	Req'd Watts
1800	1/35	23.5	16.8	17.0	70
1200	1/70	17.6	12.6	12.8	50
900	1/115	14.1	10.1	10.2	40

MODEL MB "MINI-BEE" 1/100 HP MOTOR

Smaller version of the Honey Bee, for digital cassette drives, video and audio recording, data handling, instrumentation, telemetering, turntables, and many other direct drive applications. Hysteresis synchronous reversible motor features inverted rotor design for superior angular velocity characteristics. The resulting "flywheel" effect greatly reduces flutter in magnetic tape applications. Sealed ball bearings. **Starting Torque:** 6 in.-oz. at 1800 rpm. **Pull-in Torque:** 5.25 in.-oz. **Pull-out Torque:** 5.50 in.-oz. **Temperature Rise:** 40° C full load. **Power Rating:** 1/100 hp. **Speed:** 1800 rpm. **Power Required:** 115 VAC, 60 Hz. **Shaft:** 5/16" dia. x 1" stainless steel. **Leads:** 12" long. **Capacitor:** 2.0 μF, 330 VAC (included). **Size:** 2 1/32" dia. x 2⅝". Four 8-32 UNC-2B tapped mtg. holes, equally spaced on 2.000" dia. bolt circle.

SERIES GA 600 OUNCE-INCH REVERSIBLE

Instantly reversible, hysteresis synchronous motor for high torque applications and long service life. Heavy-duty gearing; lifetime lubrication. **Torque:** 600 oz.-in. at 1 rpm. **Capacitor:** 1.0 μF, ±5%, supplied. **Output Speed:** Specify 1, 2, 3, 4, 5, 6, 10, 18, 30, 60, 100, 120, 150 or 300 rpm. **Power Required:** 10 watts, 115 VAC, 60 Hz. **Shaft:** ¼" dia. flatted x 1" lg. **Size:** 2 13/16" dia. x 2 27/32" lg. Three 3/16" dia. mtg. holes. Wt., 2¼ lbs.

SERIES CA 100 OUNCE-INCH REVERSIBLE

Instantly reversible, using SPDT switch; accurate clockwise and counter-clockwise. **Capacitor:** 0.50 μF. **Torque:** 100 oz.-in. at 1 rpm. **Rotor Speed:** 1200 rpm. **Output Speed:** Specify ⅓, ½, 1, 1½, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 30, 40, 60, 120, 150, 200, 240, 400 or 600 rpm. **Power Required:** 5 watts, 115 VAC, 60 Hz. **Temp. Rise:** 40° C above ambient. **Shaft:** 3/16" dia. x 1" lg. flatted. **Size:** 2½" dia. x 2⅛" lg. Three 9/64" dia. mtg. holes spaced on 120° circle. Weight, 15 oz.

SERIES DA 150 OUNCE-INCH REVERSIBLE

Instantly reversible, using SPDT switch; accurate both clockwise and counter-clockwise. Good magnetic shielding; for continuous duty. Lifetime lubrication. **Capacitor:** 0.5 μF, supplied. **Torque:** 150 oz.-in. at 1 rpm. **Output Speed:** Specify 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 or 120 rpm. **Power Required:** 5 watts, 115 VAC, 60 Hz. **Temp. Rise:** 40° C above ambient. **Shaft:** 3/16" dia. x 1" lg., flatted; stainless steel. **Size:** 2½" dia. x 1¾" lg. Three 9/64" dia. mtg. holes spaced 120°. Weight, 14 oz.

SERIES AR-DA AUTOMATIC RESET

Automatic reset type DA motor, 100 oz.-in. reversible, when return spring is attached to output shaft. Shaft free for manual or automatic reset when clutch is de-energized. For heavy duty applications up to full torque rating. Accurate within 1/5 second at 1 rpm, greater accuracy at higher speeds. Lubricated, enclosed clutch mechanism. **Capacitor:** 0.5 μF, supplied. **Torque:** 100 oz.-in. at 1 rpm. **Output Speed:** Specify 1, 2, 4, 6, 10, 30 or 60 rpm. **Speed Error:** In seconds, .15625 divided by rpm. **Power Required:** 5 watts, 115 VAC, 60 Hz. **Temp. Rise:** 40° C above ambient. **Shaft:** 3/16" dia. x 1" lg. flatted; stainless steel. **Size:** 2½" dia. x 2" lg. Three 9/64" dia. mtg. holes spaced 120°. Weight, 22 oz.

SERIES PC-DA 120 OUNCE-INCH POSITIVE CLUTCH

Reversible, fast start and stop motor for continuous duty. Clutch and brake controlled by switching actuator only. Starts within 20 msec; stops within 1/5° at 1 rpm or 12° at 60 rpm. Specifications same as for AR-DA, except: **Torque:** 120 oz.-in. at 1 rpm. **Output Speed:** Specify 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 or 120 rpm. Wt., 21 oz.

SERIES EA 150 OUNCE-INCH UNIDIRECTIONAL

Open frame, shaded pole for accurate clockwise rotation only. Very cool running, dependable and low cost. **Torque:** 150 oz.-in. at 1 rpm. **Output Speed:** Specify 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 or 120 rpm. **Power Required:** 10 watts, 115 VAC, 60 Hz. **Temp. Rise:** 40° C above ambient. **Shaft:** 3/16" dia. x 1" lg., flatted. **Size:** 2⅝" w. x 3 5/16" d. x 1⅝" h. Three 9/64" mtg. holes spaced 120°. Weight, 19 oz.

INDUSTRIAL NET PRICES

Hurst Series	Speed, rpm*	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
AR-DA	Any	$34.33	$31.02	$29.37	$27.89	$26.49
CA	Any	18.06	16.24	15.44	14.68	13.95
DA	Any	21.05	18.96	18.00	17.12	16.25
EA	Any	13.50	12.14	11.53	10.95	10.40
GA	1–10	48.46	45.76	43.07	40.38	35.00
	18,30	46.73	44.13	41.53	38.94	33.75
	60–300	41.54	39.24	36.93	34.62	30.00
PC-DA	Any	29.11	26.20	24.89	23.64	22.46
		1-9	10-24	25-49	50-99	
HB	900	$57.84	$54.95	$49.62	$45.64	.....
	1200	76.59	67.75	57.55	53.48	.....
	1800	80.12	71.28	61.07	57.01	.....
MB	1800	81.30	72.47	62.26	58.19	.....

*Specify when ordering. All motors, except EA, come with capacitor.

K-DET REVERSIBLE SYNCHRONOUS MOTORS: GEARED OR DIRECT DRIVE

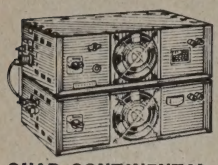
Continuous duty instrument motors offer high reliability, small size and high torque. Totally enclosed. All are reversible; come with capacitor and 12" color-coded leads. Sealed with lifetime lubrication, physical design permits drop-in replacement of similar motors. Unique "Heli-spur" gear combines helical primary gear (for quietness) with precision steel "spur" secondary gear (for heavy load carrying and long life). Gear and pinion assemblies rotate on hardened steel studs. Sealed ball bearings on rotor shaft; bronze inner and output bearings on axial thrust support the stainless steel output shaft. **Gear Train Torque:** 250 oz.-in. at 1 rpm. **Temp. Rise:** 40° C above ambient. **Power Required:** 115 VAC, 60 Hz. **Shaft:** ¼" dia. x 1" lg., flatted for gear motors; 3/16" dia. x ⅝" lg., flatted on direct drive. **Size:** 2⅜" dia. x 2 3/16" lg., direct drive motor; 2⅞" lg., gear motors 2559, 2560, 2561 and 2562; 3 1/32" lg., gear motors 2541, 2543, 2547, 2553, 2555 and 2557; 2 1/32" lg., all others. **Mounting:** Gear motors use 2 of the four 8-32 frame screws; output shaft bearing extends as a locating pilot. Direct drive motor has four 8-32 x 9/64" d. tapped mtg. holes spaced 1 23/32".

Hurst Model	Speed, rpm	Torque, Oz.-In.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
2535	1	250	$47.30	$44.02	$43.11	$34.63	$32.80
2563	1.5	200	47.30	44.02	43.11	34.63	32.80
2536	2	150	47.30	44.02	43.11	34.63	32.80
2537	3	100	47.30	44.02	43.11	34.63	32.80
2538	4	85	47.30	44.02	43.11	34.63	32.80
2541	6	95	48.92	45.55	44.59	35.18	33.31
2543	10	72	48.92	45.55	44.59	35.18	33.31
2547	15	48	48.92	45.55	44.59	35.18	33.31
2553	25	29	47.83	44.53	43.58	35.18	33.31
2555	30	27	47.83	44.53	43.58	35.18	33.31
2557	60	15	47.83	44.53	43.58	35.18	33.31
2559	100	8.9	45.12	42.00	41.12	33.02	31.26
2560	150	5.9	45.12	42.00	41.12	33.02	31.26
2561	200	4.4	45.12	42.00	41.12	33.02	31.26
2562	300	2.9	45.12	42.00	41.12	33.02	31.26
2588*	1800	.6	29.78	27.56	26.25	20.84	19.73

*Direct drive; all others geared.

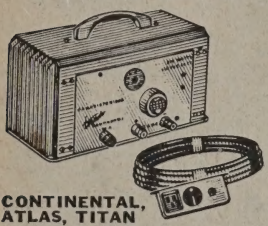
Terado DC-AC Inverters

CHANGES BATTERY CURRENT TO 117 VAC, 60 HERTZ, FREQUENCY STABILIZED*
CAN BE ADAPTED FOR 50 Hz USE† REMOTE CONTROL‡

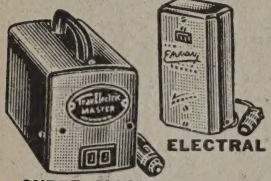


QUAD CONTINENTAL

DUAL CONTINENTAL



CONTINENTAL, ATLAS, TITAN



SUPER, MASTER—TRANSVERTER

ELECTRAL

CHIEF

SENIOR, DYNAMO

AUTO SHAVER

SUPER GEMINI, DUAL GEMINI

GEMINI, FALCON, GALAXY, TEMPEST

QUAD CONTINENTAL*†
Transistorized, 1200 watts

Converts 12 VDC to 117 VAC, 60 Hz, 1100 to 1200 watts. Frequency stable within ¼ Hz, not affected by change in input or load. Filtered for sensitive electronic equipment. Operates small refrigerators, lights, tape recorders, video cameras and recording tapes, electric tools, lab test equipment, televisions including color, and portable hospital equipment. Adjustable output control and accurate AC output meter. Sophisticated solid state design. Variable AC output. Remote control optional. Size: 15″ w. x 12¼″ d. x 10½″ h. Shipping Weight, 95 lbs. Includes cables.
Terado No. 50-110A— Net Each..... **$761.59**

DUAL CONTINENTAL-3*†
Transistorized, 600 watts

Ultra fine frequency stable inverter converts 12 VDC to 117 VAC, 60 Hz, 550 to 600 watts. Frequency variation ±¼ Hz with changing input and load. Ideal for operation of fine or critical video-tape equipment and instruments. Includes battery cables, variable AC output. Remote control optional. Size: 15″ w. x 12¼″ d. x 5⅛″ h. Shipping Weight, 55 lbs.
Terado No. 50-202-3A—Net Each.. **$473.26**

CONTINENTAL-3*†‡
Transistorized, 300 watts

Same as DUAL CONTINENTAL-3 except: 275–300 watts capacity. Has remote control. Size: 10¾″ w. x 6″ d. x 6″ h. Shipping Weight, 30 lbs. Includes cables.
Terado No. 50-191-3—Net Each.... **$264.43**

DUAL CONTINENTAL-24 VOLT*†
Transistorized, 800 watts

Ultra fine frequency inverter converts 24 VDC to 117 VAC, 60 Hz, 700 to 800 watts. Frequency stable to ±¼ Hz with changing input and load. Designed for duty in aircraft or other 24 VDC applications. Includes battery cables and variable AC output. Remote control optional. Size: 15″ w. x 12¼″ d. x 5⅛″ h. Shipping Weight, 55 lbs.
Terado No. 50-152A—Net Each.... **$683.35**

CONTINENTAL-24 VOLT*†‡
Transistorized, 400 watts

Same as DUAL CONTINENTAL above, except: 350–400 watts capacity. Has remote control. Size: 10¾″ w. x 6″ d. x 6″ h. Shipping Weight, 30 lbs.
Terado No. 50-190—Net Each..... **$335.68**

DUAL CONTINENTAL*†
Transistorized, 600 watts

Converts 12 VDC to 117 VAC, 60 Hz, 550 to 600 watts. Filtered for tape recorders. Frequency stable within ±2 hertz with changing input voltage load. Remote control optional. Includes battery cables, variable AC output. Size: 15″ w. x 12¼″ d. x 5⅛″ h. Shpg. Wt., 55 lbs.
Terado No. 50-202A—Net Each.... **$408.43**

CONTINENTAL*†‡
Transistorized, 300 watts

Same as DUAL CONTINENTAL, except: 275–300 watts capacity. Has remote control. Size: 10¾″ w. x 6″ d. x 6″ h. Shpg. Wt., 30 lbs. Includes cables.
Terado No. 50-191—Net Each..... **$197.66**

ATLAS*†‡
Transistorized, 200 watts

Same as DUAL CONTINENTAL except: 175–200 watts capacity. Has remote control. Size: 10¾″ w. x 6″ d. x 6″ h. Shpg. Wt., 23 lbs. Includes cables.
Terado No. 50-200—Net Each..... **$165.95**

TITAN*†
Transistorized, 175 watts

Same as DUAL CONTINENTAL except: 150–175 watts capacity; on-off switch; AC receptacle. Size: 10¾″ w. x 6″ d. x 6″ h. Shpg. Wt., 20 lbs.
Terado No. 50-201— Net Each..... **$137.50**

SUPER*†
Single input. Size: 3½″ w. x 6½″ d. x 4″ h. Shpg. Wt., 8 lbs.
Terado No. 50-127—Input, 12 V; AC power output, 75–100 watts. Net Ea... **$68.79**

MASTER*†
Voltage input, 12 V; AC power output, 60–75 watts. Size: 3½″ w. x 6½″ d. x 4″ h. Wt., 6 lbs.
Terado No. 50-122— Net Each..... **$54.45**

ELECTRAL*
Glove compartment size inverter, available in 12 volt input. Easy installation into cigarette lighter. Coated steel case. Size: 3″ w. x 2¼″ d. x 5½″ h. Shipping Weight, 3 lbs.
Terado No. 50-167—Voltage input, 12 V; AC power output, 42–52 watts. Net. **$31.95**

CHIEF*†
Operates tape recorders, power tools, dictation machines, mixers, blenders, etc. Front AC receptacle. Connects directly to battery. Toggle switch output control. Ventilated steel case. Size: 3½″ w. x 6½″ d. x 4″ h. Shpg. Wt., 8 lbs.
Terado No. 50-138—Input, 12 V; AC power output, 100–125 watts. Net Ea.. **$75.50**

SENIOR*
Operates radios, lights, phonographs and small tape recorders. Simple to install into cigarette lighter. Aluminum case; baked enamel. Size: 2½″ w. x 4½″ d. x 2¼″ h. Shpg. Wt., 3 lbs.
Terado No. 50-116—Voltage input, 12 V; AC power output, 40–50 watts. Net. **$30.67**

DYNAMO*
Operates AC radios, shavers and small calculators on 12 VDC battery. Power output, 25–30 watts. Size: 2″ x 2″ x 3¾″. Shpg. Wt., 2 lbs. **$22.97**
Terado No. 50-197—Net Each..... **$22.97**

TRANSISTORIZED AUTO SHAVER
Operates all electric shavers. Transistorized 12 V (15–20 W) input. Plugs into cigarette lighter. Polyethylene non-breakable case. Size: 3⅝″ w. x 2¼″ d. x 4¼″ h. Shpg. Wt., 2 lbs.
Terado No. 50-103—12 volts. Net Each..... **$13.21**

SUPER GEMINI—1500 WATTS
Transistorized 12 VDC to 117 VAC. Designed to operate equipment not sensitive to frequency change. Power output, 1500 watts intermittent, 900 watts continuous. Remote control optional. Size: 15″ w. x 12¼″ d. x 5⅛″ h. Weight, 40 lbs. Includes battery cables.
Terado No. 50-133-3A—Net Each.. **$396.33**

DUAL GEMINI—1000 WATTS
Same as SUPER GEMINI except 1000 watts intermittent, 900 watts continuous. Size: 15″ w. x 12¼″ d. x 5⅛″ h. Shpg. Wt., 40 lbs. **$341.79**
Terado No. 50-133A—Net Each.... **$341.79**

GEMINI 3—750 WATTS
Same as SUPER GEMINI except 750 watts intermittent, 450 watts continuous. Size: 12″ x 6″ x 6″. Shpg. Wt., 19 lbs. **$155.65**
Terado No. 50-128-3—Net Each.... **$155.65**

GEMINI—500 WATTS
Transistorized 12 VDC to 117 VAC. Power output, 450–500 watts. Designed to operate equipment not sensitive to frequency change. Size: 12″ x 6″ x 6″. Shpg. Wt., 19 lbs. **$131.66**
Terado No. 50-128—Net Each..... **$131.66**

FALCON—300 WATTS
Transistorized 12 VDC to 117 VAC. Power output, 275–300 watts. Designed to operate equipment not sensitive to frequency change. Size: 12″ x 6″ x 6″. Shpg. Wt., 19 lbs. **$114.00**
Terado No. 50-129—Net Each..... **$114.00**

REMOTE CONTROL
Remote control accessory for GEMINI 50-128, 50-128-3 and FALCON 50-129. **$15.80**
Terado No. 50-130—Net Each..... **$15.80**

GALAXY—200 WATTS
Transistorized 12 VDC to 117 VAC, 175–200 watts filtered. Adjustable voltage and frequency. Ideal where frequency is not critical. Size: 12″ x 6″ x 6″. Shpg. Wt., 13 lbs. **$79.57**
Terado No. 50-205—Net Each..... **$79.57**

TEMPEST—200 WATTS
Transistorized 12 VDC to 117 VAC, 150–175 watts. Ideal where frequency is not important. Size: 12″ x 6″ x 6″. Shpg. Wt., 13 lbs. **$54.95**
Terado No. 50-170—Net Each..... **$54.95**

"BROWNOUT" VOLTAGE BOOSTERS
For TV, hi-fi and AC motorized equipment. Change high or low voltage over range of 95–135 V to normal. Input: 117 VAC line.
Terado No. 50-204 Polaris—Capacity, 300 watts continuous, 500 watts intermittent. Size: 5½″ x 3″ x 2¼″. Wt., 3 lbs. **$15.54**
Net Each..... **$15.54**
Terado No. 50-172 Saturn—Same as Polaris but with AC voltmeter. **$26.95**
Net Each..... **$26.95**
Terado No. 50-141 Appollo—Similar to Polaris, but 1200 watts continuous, 1500 watts intermittent. Increases voltage in 10 and 15 volt steps. Size: 4″ x 3½″ x 6½″. Weight, 8 lbs. **$39.50**
Net Each..... **$39.50**
Terado No. 50-161 Boost-a-Volt—Capacity, 1200 watts continuous, 1700 watts intermittent. Size: 12½″ x 6″ x 6″. Wt., 19 lbs. **$74.00**
Net Each..... **$74.00**
Terado No. 50-163 Boost-a-Volt—Same as Boost-a-Volt 161, but without AC voltmeter. Uses neon light. **$63.52**
Net Each..... **$63.52**

ALL TERADO INVERTERS SUPPLIED WITH BATTERY CABLES

terado BATTERY CHARGERS, VOLTAGE ADJUSTERS, STANDBY POWER SYSTEMS

CHANGES BATTERY CURRENT TO 117 VAC, 60 HERTZ, FREQUENCY STABILIZED* CAN BE ADAPTED FOR 50 Hz USE†

FOREIGN POWER TO U.S.A. POWER TRANSVERTER

Changes 220 VAC foreign power to 120 VAC USA power. Operates hair dryers, mixers, etc., in foreign countries up to its capacity of 1000 watts. Complete with adapter plugs. Size: 3½" w. x 6½" d. x 4" h. Shipping Weight, 8 lbs.
Terado No. 50-123—Input 220 VAC; output 120 VAC, 750–1000 watts. Net Each..... **$33.95**

TRAV-A-POWER

Changes 220 VAC foreign power to 120 VAC. Operates 117 VAC portable electrical equipment to 750 watts. Ideal for hair dryers and blow combs. Has leatherette carrying case, complete with adapter plugs. Size 3" x 2" x 5"—Wt. 5 lbs.
Terado No. 50-125—Net Each..... **$25.95**

SOLID STATE POWER SUPPLIES

POWR-ALL

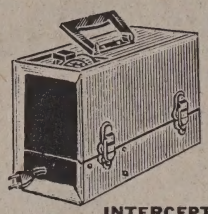
Supply and charge rate 25 amps continuous, 40 amps intermittent (one minute); 12 VDC output. Capacity as battery charger, 25 amps or trickle. Two complete circuits; separate circuit breakers. Filtered for 1 amp loads. With output meter. Size: 12½" w. x 6" d. x 6" h. Shipping Weight, 21 lbs. **$95.00**
Terado No. 50-106—Net Each.....

POW-R-PAK PORTABLE JUMPER BATTERY

Provides emergency 12 V starting power when temperature is below zero or battery is low. Built-in fast charger, lightweight, portable. Recharges from any 110 VAC outlet. Meter shows at a glance when self-contained battery is fully charged; unit is then set at low maintenance charge until needed. Size: 12" x 5½" x 8". Shpg. Wt., including battery, 33 lbs. **$72.50**
Terado No. 50-162—Net Each.....

INTERCEPTOR*† "STANDBY" ELECTRIC POWER

Automatically provides 117 VAC when power fails. Capacity up to 175 watts, 60 Hz, 117 VAC. Operates test equipment, monitors, recorders, lights, alarms, thermostats, electric tools, portable TV, electric cameras etc. Complete with rechargeable battery, high and low battery charger, inverter and crossover, all self-contained. Simple installation. Size: 12" x 5½" x 8". Shipping Weight, 36 lbs. **$153.65**
Terado No. 50-168—Net Each.....



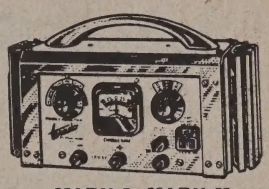
INTERCEPTOR

SHAVERTER

Operates any American shaver on foreign countries' power. With all necessary adapters. Size: 3⅝" w. x 2¼" d. x 4¼" h. Wt., ½ lb. **$10.00**
Terado No. 50-124 Shaverter—Net....

INVERTER-BATTERY CHARGERS MARK I

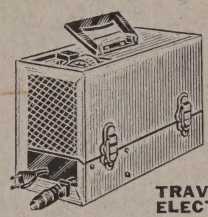
Solid state, transistorized unit changes battery voltage to 117 V or charges 12 V storage battery at 20 amps, 10 amps or trickle. AC capacity, 450 to 500 watts. Built-in charge meter. Copper baked enamel case. Size: 12½" w. x 6" d. x 6" h. Shipping Weight, 21 lbs. **$154.95**
Terado No. 50-131 Mark I—Net....
Terado No. 50-132 Mark II—As above but 275–300 watt capacity. Net Each..... **$137.50**



MARK I, MARK II

TRAV-ELECTRIC*†

Changes battery current to 117 VAC, 60 Hz, ± ½ Hz, regardless of load; 50 Hz adaptable. Operates anything using 117 VAC, 60 Hz from 30 amps rechargeable wet storage battery enclosed. Capacity, 175 watts; 125 watts continuous. Frequency stable within ½ Hz with load change. Plugs into AC outlet or car cigarette lighter to recharge battery. Charger has automatic overcharge protection. Meter shows charge rate and hours of anticipated output. Size: 12" x 5½" x 8". Wt.: Net, 30 lbs. including battery; shpg., 36 lbs. **$113.50**
Terado No. 50-160—Net Each.....



TRAV-ELECTRIC

DYN-A-MITE

SOLID STATE BATTERY CHARGERS

Chargers have ventilated steel cases, heavy duty cords and battery clamps. Brackets for coiling wire included. Baked hammer finish. Completely portable.

Taperite has low position causing charge automatically to taper to zero; won't overcharge battery. Can be connected indefinitely.

Super Charger has color coded meter to show battery condition and charge rate.

Powerhouse solid state, full wave, reverse polarity protected, with 4 silicon rectifiers. Boost charge position 50 amps, 20 amps and trickle charge position. Available for 24 V and 12 V.

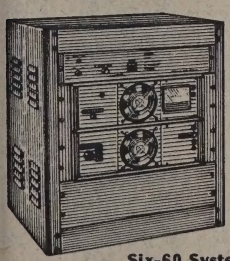
Charge rates listed are for both 6 and 12 V except as noted.

Terado Model No.	Name	Charge Rate	Size, Inches	Wt., Lbs.	Net Each
50-186	Dyn-A-Mite	1 A§	1¾ sq. x 3¼	1	$ 9.50
50-194	Chargrite	5 A#	4 x 5 x 6	10	28.45
50-192	Taperite	6 A#	4 x 5 x 6	7½	39.75
50-189	Challenger	6 A	4 x 5 x 6	5	39.00
50-181	Super Charger	10 A	4 x 5 x 6	7½	39.50
50-183	Powerhouse	35 A#	11 x 6 x 6	20	91.62
50-182-24V	Powerhouse	35 A•	11 x 6 x 6	20	92.75

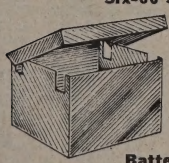
§Not metered; all others have meter. #12 V charge rate only. •24 V charge rate only.

ALL TERADO INVERTERS SUPPLIED WITH BATTERY CABLES

SUPER CHARGER, CHALLENGER



Six-60 System



Battery Box

660-112

NEW SERIES SIX-60 STANDBY POWER SYSTEMS

STANDBY/EMERGENCY AC POWER FROM BATTERIES FOR

- **MEDICAL ELECTRONICS**
- **FIRE ALARMS**
- **TELEPHONE, TELETYPE, TELEGRAPH**
- **PAGING SYSTEMS**
- **SECURITY SYSTEMS**
- **RADIO COMMUNICATIONS**

Series Six-60 is engineered to be a complete package, ready for immediate operation. Compact, standing floor cabinet contains charging system, inversion system, and automatic crossover engineered to work together with reliability and efficiency. **Inverter System:** Solid state DC to AC type. Input of 12 VDC from batteries; output, 117 VAC, 60 Hz single phase, well filtered square wave. **Charging System:** Battery charger contains an analog computer; controls all charging functions; constantly monitors line voltage and makes instant adjustments; maintains batteries at constant peak charge. **Panel Indicators:** Two pilot lights indicate incoming AC power and standby or test mode. Ammeter indicates output of charging system. Has forced air cooling on the charger and load transfer circuits and inversion circuit. Splatter gray finish cabinet with satin chrome panel components. **Size:** 22" w. x 17⅛" d. x 24½" h. **Separate DC Battery Source:** Lead acid type, designed for standby service. **Battery Box:** For remote installation. **Size:** 20" w. x 18½" d. x 14" h.

OTHER SYSTEMS AVAILABLE PER QUOTATION. Additional batteries and rack for longer duty cycle operation time, as well as higher wattage output also available.

STANDARD SERIES SIX-60 STANDBY POWER SYSTEMS

Standard computer 10 amp charger; 270 AH lead acid batteries; 25 msec crossover; system recovery 24 hours.

Terado Model	Frequency	Output, W	Operation, Hrs.	Net Each
660-101	± ¼ Hz	250	8	$1012.55
660-102		500	4	1246.12
660-103		1000	2	1635.55
660-108	60 Hz ±10%	250	8	928.07
660-109		500	4	997.14

Terado Model	Frequency	Output, W	Operation, Hrs.	Net Each
660-110	60 Hz ±10%	1000	2	$1136.14
660-111		1500	1½	1248.98
660-112*		300–1000	4	419.50
660-113		2000	1	1584.00

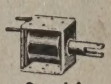
*Model 660-112 is supplied less battery.

GUARDIAN® ELECTRIC Solenoids

Solenoids for intermittent or continuous duty. Intermittent types should not be energized for over 5 consecutive minutes, or be permitted to rise more than 85° C above 24° C ambient without sufficient cooling time. Plunger has slotted end with 1/8" dia. hole for coupling. In charts, (I) indicates intermittent duty type, (C) indicates continuous duty. **To Order, Specify:** Solenoid number; voltage and AC or DC; continuous or intermittent (for intermittent give cycle of operation, length of time current will pass through coil, etc.); max. stroke and pull required.

PULL TYPE AC AND DC SOLENOIDS

1A1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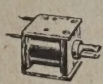
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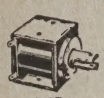
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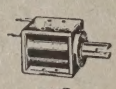
4HD

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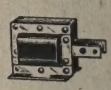
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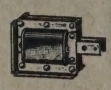
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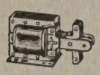
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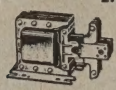
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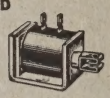
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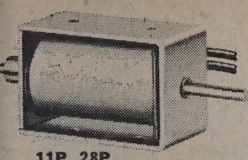
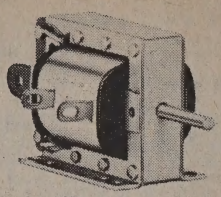
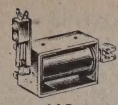
Guardian No.	Duty	Coil Voltage	Ohms	Lifts and Strokes Minimum	Lifts and Strokes Maximum	Body Size, Inches L. x W. x H.	Shpg. Wt., Oz.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
1A1	I	120 AC	300	8 oz. at 1/8"	2 oz. at 1/2"	15/32 x 5/16 x 1 1/16	4.5	$ 4.62	$4.16	$3.93	$3.24	$3.00
1A1	C	120 AC	675	3 oz. at 1/8"	0.5 oz. at 3/8"	15/32 x 5/16 x 1 1/16	4.5	4.62	4.16	3.93	3.24	3.00
2†	I	120 AC	60	45 oz. at 1/8"	11 oz. at 7/8"	1 5/8 x 1 7/16 x 1 5/8	10	5.96	5.36	5.07	4.17	3.87
2†	C	120 AC	166	14 oz. at 1/8"	3 oz. at 7/8"	1 5/8 x 1 7/16 x 1 5/8	10	6.04	5.44	5.13	4.23	3.93
2HD†	I	120 AC	36	70 oz. at 1/8"	16 oz. at 3/4"	1 13/16 x 1 7/16 x 1 11/16	13	10.21	9.19	8.68	7.15	6.64
2HD†	C	120 AC	113	25 oz. at 1/8"	6 oz. at 3/4"	1 13/16 x 1 7/16 x 1 11/16	13	10.21	9.19	8.68	7.15	6.64
2HD†	I	24 DC	20	96 oz. at 1/8"	10 oz. at 3/4"	1 13/16 x 1 7/16 x 1 11/16	13	10.52	9.47	8.94	7.36	6.84
2HD†	C	24 DC	64	48 oz. at 1/8"	6 oz. at 5/8"	1 13/16 x 1 7/16 x 1 11/16	13	10.52	9.47	8.94	7.36	6.84
3HD†	I	24 DC	21	160 oz. at 1/16"	8 oz. at 3/4"	1 25/32 x 1 7/16 x 1 5/8	14	7.42	6.68	6.31	5.20	4.82
3HD†	C	24 DC	52	100 oz. at 1/16"	3 oz. at 3/4"	1 25/32 x 1 7/16 x 1 5/8	14	7.42	6.68	6.31	5.20	4.82
4†	I	120 AC	37	24 oz. at 1/8"	22 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.46	6.71	6.34	5.22	4.85
4†	C	120 AC	133	8 oz. at 1/8"	6 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.46	6.71	6.34	5.22	4.85
4†	I	24 DC	15	110 oz. at 1/8"	4 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.46	6.71	6.34	5.22	4.85
4†	C	24 DC	54	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.46	6.71	6.34	5.22	4.85
4†	I	110 DC	346	90 oz. at 1/8"	4 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.46	6.71	6.34	5.22	4.85
4†	C	110 DC	1300	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.46	6.71	6.34	5.22	4.85
4HD†	I	120 AC	15	100 oz. at 1/16"	32 oz. at 1 1/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.55	6.80	6.42	5.29	4.91
4HD†	C	120 AC	53	23 oz. at 1/8"	11 oz. at 1 1/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.55	6.80	6.42	5.29	4.91
4HD†	I	24 DC	15	145 oz. at 1/8"	23 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.55	6.80	6.42	5.29	4.91
4HD†	C	24 DC	50	75 oz. at 1/8"	8 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.55	6.80	6.42	5.29	4.91
4HD†	I	110 DC	350	145 oz. at 1/8"	23 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.55	6.80	6.42	5.29	4.91
4HD†	C	110 DC	1200	75 oz. at 1/8"	8 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.55	6.80	6.42	5.29	4.91
9	I	120 AC	220	18 oz. at 1/8"	7 oz. at 1/2"	1 5/32 x 1 1/16 x 1	4	4.43	3.99	3.77	3.10	2.88
9	C	120 AC	350	11 oz. at 1/8"	2 oz. at 1/2"	1 5/32 x 1 1/16 x 1	4	4.43	3.99	3.77	3.10	2.88
9	I	24 DC	52	14 oz. at 1/8"	2 oz. at 1/2"	1 5/32 x 1 1/16 x 1	4	4.43	3.99	3.77	3.10	2.88
9	C	24 DC	90	9 oz. at 1/8"	1.5 oz. at 7/16"	1 5/32 x 1 1/16 x 1	4	4.43	3.99	3.77	3.10	2.88
10	I	120 AC	74	42 oz. at 1/8"	25 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	4.60	4.14	3.91	3.22	2.99
10	C	120 AC	172	15 oz. at 1/8"	7 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	4.60	4.14	3.91	3.22	2.99
10	I	24 DC	37	24 oz. at 1/8"	5 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	4.60	4.14	3.91	3.22	2.99
10	C	24 DC	69	15 oz. at 1/8"	3.5 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	4.60	4.14	3.91	3.22	2.99
11†	I	24 AC	3.5	21 oz. at 1/8"	11 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	C	24 AC	8	12 oz. at 1/8"	6 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	I	120 AC	85	21 oz. at 1/8"	11 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	C	120 AC	200	12 oz. at 1/8"	6 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	I	6 DC	2	40 oz. at 1/8"	6 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	C	6 DC	4.5	24 oz. at 1/8"	3 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	I	24 DC	31	40 oz. at 1/8"	6 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
11†	C	24 DC	72	24 oz. at 1/8"	3 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.16	3.74	3.54	2.91	2.70
12†	I	120 AC	100	48 oz. at 1/8"	9 oz. at 1"	1 5/8 x 1 1/4 x 1 7/16	6	6.20	5.58	5.27	4.34	4.03
12†	C	120 AC	150	28 oz. at 1/8"	6 oz. at 7/8"	1 5/8 x 1 1/4 x 1 7/16	6	6.20	5.58	5.27	4.34	4.03
14†	I	120 AC	11	108 oz. at 1/8"	56 oz. at 1 1/2"	2 7/16 x 1 15/16 x 2 1/16	9	8.65	7.79	7.35	6.06	5.62
14†	C	120 AC	18	75 oz. at 1/8"	40 oz. at 1 1/2"	2 7/16 x 1 15/16 x 2 1/16	9	8.65	7.79	7.35	6.06	5.62
16†	I	120 AC	41	110 oz. at 1/8"	28 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.26	5.63	5.32	4.38	4.07
16†	C	120 AC	85	63 oz. at 1/8"	15 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.26	5.63	5.32	4.38	4.07
16†	I	240 AC	200	110 oz. at 1/8"	28 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.30	5.67	5.36	4.41	4.10
16†	C	240 AC	350	63 oz. at 1/8"	15 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.30	5.67	5.36	4.41	4.10
18†	I	120 AC	8.8	350 oz. at 1/8"	208 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	8.21	7.29	6.97	5.74	5.34
18†	C	120 AC	19.7	152 oz. at 1/8"	100 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	8.21	7.29	6.97	5.74	5.34
18†	I	240 AC	45	350 oz. at 1/8"	208 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	8.34	7.51	7.09	5.84	5.42
18†	C	240 AC	78	152 oz. at 1/8"	100 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	8.34	7.51	7.09	5.84	5.42
22†	I	6 DC	4	20 oz. at 1/16"	2 oz. at 3/8"	15/32 x 3/4 x 3/4	2.5	3.46	3.11	2.94	2.42	2.25
22†	C	6 DC	9	12 oz. at 1/16"	1.7 oz. at 1/4"	15/32 x 3/4 x 3/4	2.5	3.46	3.11	2.94	2.42	2.25
22†	I	24 DC	60	20 oz. at 1/16"	2 oz. at 7/16"	15/32 x 3/4 x 3/4	2.5	3.46	3.11	2.94	2.42	2.25
22†	C	24 DC	144	12 oz. at 1/16"	1.7 oz. at 3/8"	15/32 x 3/4 x 3/4	2.5	3.46	3.11	2.94	2.42	2.25
24†	I	120 AC	310	17 oz. at 1/16"	4 oz. at 5/8"	1 1/4 x 2 7/32 x 1	3	4.02	3.62	3.42	2.81	2.61
24†	C	120 AC	500	10 oz. at 1/16"	2 oz. at 5/8"	1 1/4 x 2 7/32 x 1	3	4.02	3.62	3.42	2.81	2.61
24†	I	24 DC	52	27 oz. at 1/16"	4 oz. at 1/2"	1 1/4 x 2 7/32 x 1	3	4.02	3.62	3.42	2.81	2.61
24†	C	24 DC	114	13 oz. at 1/16"	1.5 oz. at 1/2"	1 1/4 x 2 7/32 x 1	3	4.02	3.62	3.42	2.81	2.61
26†	I	120 AC	140	32 oz. at 1/16"	4 oz. at 7/8"	1 3/4 x 2 7/32 x 1 3/16	4	4.24	3.82	3.60	2.97	2.76
26†	C	120 AC	250	17 oz. at 1/16"	6 oz. at 5/8"	1 3/4 x 2 7/32 x 1 3/16	4	4.24	3.82	3.60	2.97	2.76
26†	I	24 DC	33	46 oz. at 1/16"	4 oz. at 3/4"	1 3/4 x 2 7/32 x 1 3/16	4	4.02	3.62	3.42	2.81	2.61
26†	C	24 DC	85	26 oz. at 1/16"	1 oz. at 1/2"	1 3/4 x 2 7/32 x 1 3/16	4	4.02	3.62	3.42	2.81	2.61
28†	I	24 AC	7.5	40 oz. at 1/16"	7 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.72	3.35	3.16	2.60	2.42
28†	C	24 AC	17.4	24 oz. at 1/16"	5 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.72	3.35	3.16	2.60	2.42
28†	I	120 AC	220	40 oz. at 1/16"	7 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	4.02	3.62	3.42	2.81	2.61
28†	C	120 AC	400	24 oz. at 1/16"	5 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	4.02	3.62	3.42	2.81	2.61
28†	I	6 DC	3.3	40 oz. at 1/16"	3 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.70	3.33	3.15	2.59	2.41
28†	C	6 DC	7.7	25 oz. at 1/16"	2 oz. at 3/8"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.70	3.33	3.15	2.59	2.41
28†	I	12 DC	13	40 oz. at 1/16"	3 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.70	3.33	3.15	2.59	2.41
28†	C	12 DC	27	25 oz. at 1/16"	2 oz. at 3/8"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.70	3.33	3.15	2.59	2.41
28†	I	24 DC	50	40 oz. at 1/16"	3 oz. at 1/2"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.70	3.33	3.15	2.59	2.41
28†	C	24 DC	104	25 oz. at 1/16"	2 oz. at 3/8"	1 7/8 x 1 7/32 x 1 3/16	3.5	3.70	3.33	3.15	2.59	2.41
34†	I	120 AC	400	18 oz. at 1/16"	4.5 oz. at 1/2"	1 1/8 x 3/4 x 1 5/64	3	3.30	2.97	2.81	2.31	2.15
34†	C	120 AC	865	9 oz. at 1/16"	1.5 oz. at 1/2"	1 1/8 x 3/4 x 1 5/64	3	3.30	2.97	2.81	2.31	2.15
34†	I	24 DC	66	14 oz. at 1/16"	2.5 oz. at 7/16"	1 1/8 x 3/4 x 1 5/64	3	3.30	2.97	2.81	2.31	2.15
34†	C	24 DC	145	6.5 oz. at 1/16"	1.8 oz. at 1/4"	1 1/8 x 3/4 x 1 5/64	3	3.30	2.97	2.81	2.31	2.15

†RECOGNIZED UNDER THE COMPONENT PROGRAM OF UNDERWRITERS LABORATORIES INC.

GUARDIAN® *ELECTRIC* Solenoids


11P, 28P


16P, 18P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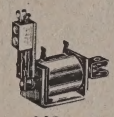
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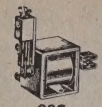
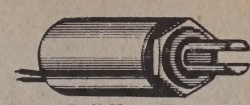
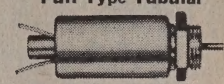

28S


Pull Type Tubular


Push Type Tubular

Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85° C above 24° C ambient without sufficient cooling time between operation cycles or periods of energization. Continuous type have high coil resistance and will not rise more than 85° C above 24° C ambient temperature when operated within maximum lift and stroke ratings. **To Order, Specify:** Solenoid number; voltage and AC or DC; continuous or intermittent.

PUSH TYPE AC AND DC SOLENOIDS

Push versions of popular solenoids. Types 11P and 28P are box frame design. 16P and 18P are laminated AC types. Push rods are equal to maximum stroke length. (I) indicates intermittent duty type, (C) indicates continuous duty.

Guardian No.†	Duty	Coil Voltage	Ohms	Lifts and Strokes Minimum	Lifts and Strokes Maximum	Body Size, Inches L. x W. x H.	Shpg. Wt., Oz.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
11P	I	24 AC	3.5	16.8 oz. at 1/8"	8.8 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	$4.82	$4.34	$4.10	$3.37	$3.13
11P	C	24 AC	8	9.6 oz. at 1/8"	4.8 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
11P	I	120 AC	85	16.8 oz. at 1/8"	8.8 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
11P	C	120 AC	200	9.6 oz. at 1/8"	4.8 oz. at 1"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
11P	I	6 DC	2	32 oz. at 1/8"	4.8 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
11P	C	6 DC	4.5	19.2 oz. at 1/8"	2.4 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
11P	I	24 DC	31	32 oz. at 1/8"	4.8 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
11P	C	24 DC	72	19.2 oz. at 1/8"	2.4 oz. at 3/4"	1 7/8 x 1 5/16 x 1 3/16	7.5	4.82	4.34	4.10	3.37	3.13
16P	I	120 AC	41	88 oz. at 1/8"	22.5 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	7.18	6.46	6.10	5.03	4.66
16P	C	120 AC	85	50.5 oz. at 1/8"	12 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	7.18	6.46	6.10	5.03	4.66
18P	I	120 AC	8.8	280 oz. at 1/8"	80 oz. at 1"	2 1/2 x 1 13/16 x 2 3/16	16.5	9.68	8.71	8.23	6.78	6.29
18P	C	120 AC	19.7	145 oz. at 1/8"	40 oz. at 1"	2 1/2 x 1 13/16 x 2 3/16	16.5	9.68	8.71	8.23	6.78	6.29
28P	I	24 AC	7.5	32 oz. at 1/16"	5.6 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.25	3.83	3.61	2.98	2.76
28P	C	24 AC	17.4	19.2 oz. at 1/16"	4 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.25	3.83	3.61	2.98	2.76
28P	I	120 AC	220	32 oz. at 1/16"	5.6 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.55	4.10	3.87	3.19	2.96
28P	C	120 AC	400	19.2 oz. at 1/16"	4 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.55	4.10	3.87	3.19	2.96
28P	I	6 DC	3.3	32 oz. at 1/16"	2.4 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.10	3.69	3.49	2.87	2.67
28P	C	6 DC	7.7	20 oz. at 1/16"	1.6 oz. at 3/8"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.10	3.69	3.49	2.87	2.67
28P	I	12 DC	13	32 oz. at 1/16"	2.4 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.10	3.69	3.49	2.87	2.67
28P	C	12 DC	27	20 oz. at 1/16"	1.6 oz. at 3/8"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.10	3.69	3.49	2.87	2.67
28P	I	24 DC	50	32 oz. at 1/16"	2.4 oz. at 1/2"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.10	3.69	3.49	2.87	2.67
28P	C	24 DC	104	20 oz. at 1/16"	1.6 oz. at 3/8"	1 1/8 x 1 5/16 x 1 3/16	3.5	4.10	3.69	3.49	2.87	2.67

AC AND DC SOLENOID SWITCHES

Guardian Box-Frame solenoids 11 and 28 as well as U-Frame 24 have been functionally enhanced by the addition of a SPDT switch actuated by a push rod affixed to the plunger. Respective solenoid switches are 11S, 28S and 24S. All switches are rated 10 amps at 120 VAC. **To Order, Specify:** Solenoid switch number; voltage and AC or DC; continuous or intermittent.

11S	I	120 AC	85	21 oz. at 1/8"	11 oz. at 1"	1 7/8 x 1 5/16 x 2	7.5	5.53	4.98	4.70	3.87	3.59
11S	C	120 AC	200	12 oz. at 1/8"	6 oz. at 1"	1 7/8 x 1 5/16 x 2	7.5	5.53	4.98	4.70	3.87	3.59
11S	I	24 DC	31	40 oz. at 1/8"	6 oz. at 3/4"	1 7/8 x 1 5/16 x 2	7.5	5.53	4.98	4.70	3.87	3.59
11S	C	24 DC	72	24 oz. at 1/8"	3 oz. at 3/4"	1 7/8 x 1 5/16 x 2	7.5	5.53	4.98	4.70	3.87	3.59
24S	I	24 DC	52	27 oz. at 1/16"	4 oz. at 5/8"	1 1/4 x 2 7/32 x 1 29/32	3	8.58	7.72	7.29	6.01	5.57
24S	C	24 DC	114	13 oz. at 1/16"	1.5 oz. at 5/8"	1 1/4 x 2 7/32 x 1 29/32	3	8.58	7.72	7.29	6.01	5.57
28S	I	24 DC	50	40 oz. at 1/16"	3 oz. at 1/2"	1 1/8 x 1 3/16 x 2	3.5	4.87	4.38	3.90	3.41	3.17
28S	C	24 DC	104	25 oz. at 1/16"	2 oz. at 3/8"	1 1/8 x 1 3/16 x 2	3.5	4.87	4.38	3.90	3.41	3.17

TUBULAR SOLENOIDS

Choice of either pull or push types with Class "A" (105° C) insulation material and 6" leads. Mounting bracket supplied.

24 VDC PULL TYPE

Life, 10 million operations min. at rated load.

Guardian Number†	Ohms	W	Lift, Oz.§	Net Ea. 1-24*
T3.5X9*	57	10	8.5	$5.06
T3.5X9	260	2	5.5	5.33
T4X7*	80	7	12	5.21
T4X7	240	2.4	6	5.33
T4X12*	38	15	14	5.36
T4X12	160	3.5	7	5.48
T4X16*	24	20	7	5.92
T4X16	145	4	6.5	5.94
T6X12*	25	22	30	5.63
T6X12	165	3.5	12	5.74
T8X9*	30	19	52	6.28
T8X9	145	4	23	6.41
T8X16*	15	38	80	6.88
T8X16	105	5.5	35	6.93
T12X13*	14	40	150	9.32
T12X13	85	7	50	9.35
T12X19*	9.5	60	150	9.91
T12X19	59	10	80	10.00

24 VDC PUSH TYPE

Non-magnetic metal push rod length equals max. stroke length.

Guardian Number†	Ohms	W	Lfit, Oz.‡	Net Ea. 1-24*
TP3.5X9*	57	10	6.8	$ 6.13
TP3.5X9	260	2	4.4	6.38
TP4X7*	80	7	9.6	6.43
TP4X7	240	2.4	4.8	6.53
TP4X12*	38	15	11.2	6.32
TP4X12	160	3.5	5.6	6.57
TP4X16*	24	20	5.6	7.14
TP4X16	145	4	5.2	7.16
TP6X12*	25	22	24	6.41
TP6X12	165	3.5	9.6	6.51
TP8X9*	30	19	41.6	7.94
TP8X9	145	4	18.4	8.06
TP8X16*	15	38	64	7.98
TP8X16	105	5.5	28	8.17
TP12X13*	14	40	120	10.12
TP12X13	85	7	40	10.16
TP12X19*	9.5	60	120	11.36
TP12X19	59	10	64	11.45

12 VDC PULL TYPE

Guardian Number†	Ohms	W	Lift, Oz.§	Net Ea. 1-24*
T3.5X9*	14	10	8.5	$ 5.06
T3.5X9	80	2	5.5	5.33
T4X7*	20	7	12	5.21
T4X7	60	2.4	6	5.33
T4X12*	10	15	14	5.36
T4X12	41	3.5	7	5.48
T4X16*	6	20	7	5.92
T4X16	36	4	6.5	5.94
T6X12*	6.5	22	30	5.63
T6X12	41	3.5	12	5.74
T8X9*	7.5	19	52	6.28
T8X9	36	4	23	6.41
T8X16*	2.7	38	80	6.88
T8X16	26	5.5	35	6.93
T12X13*	3.6	40	150	9.32
T12X13	20	7	50	9.35
T12X19*	2.4	60	150	9.91
T12X19	14	10	80	10.00

12 VDC PUSH TYPE

Guardian Number†	Ohms	W	Lift, Oz.‡	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
TP3.5X9*	14	10	6.8	$6.13	$5.52	$5.21	$4.29	$3.98
TP3.5X9	80	2	4.4	6.38	5.74	5.52	4.47	4.14
TP4X16*	6	20	5.6	7.14	6.43	6.07	5.00	4.64
TP4X16	36	4	5.2	7.16	6.44	6.08	5.01	4.65
TP6X12*	6.5	22	24	6.41	5.77	5.45	4.49	4.17
TP6X12	41	3.5	9.6	6.51	5.86	5.53	4.56	4.26
TP8X16*	2.7	38	64	7.98	7.18	6.78	5.59	5.18
TP8X16	26	5.5	28	8.17	7.35	6.94	5.72	5.31

*Intermittent duty; all others continuous duty type. §At min. stroke; 1/32", T3 and T4; 1/16", T6 and T8; 1/8", T12 types. Maximum life and stroke ratings on request.

‡STROKE LENGTH

Lift given is for min. stroke; lift for max. stroke on request.

Type TP-	Min.	Max.	Type TP-	Min.	Max.	Type TP-	Min.	Max.
3.5X9*	1/32"	1/2"	4X16*	1/16"	1"	8X16*	1/16"	7/8"
3.5X9	1/32"	5/16"	4X16	1/16"	7/8"	8X16	1/16"	7/8"
4X7*	1/32"	3/8"	6X12*	1/16"	3/4"	12X13*	1/8"	3/4"
4X7	1/32"	3/16"	6X12	1/16"	3/4"	12X13	1/8"	3/4"
4X12*	1/32"	7/8"	8X9*	1/16"	7/16"	12X19*	1/8"	1 1/2"
4X12	1/32"	1/4"	8X9	1/16"	7/16"	12X19	1/8"	1 1/2"

★QUANTITY DISCOUNTS

1-24, Net; 25-49, −10%; 50-99, −15%; 100-249, −30%; 250 Up, −35%.

†SOLENOIDS SHOWN ON THIS PAGE ARE RECOGNIZED UNDER THE COMPONENT PROGRAM OF UNDERWRITERS LABORATORIES INC.

Magnecraft® DIP Reed Relays

DUAL-INLINE-PACKAGED 8-PIN REED RELAYS

Epoxy-molded DIP (dual-inline package) 8-pin reed relays offer high quality at low cost, compatible with the standard packaging developed for integrated circuitry. Unique design provides the optimum in automated insertion and other economical installation techniques associated with printed circuit applications. Ideal for use in circuits where high density packaging is essential. The 5 VDC IC-compatible versions will operate directly from TTL or DTL circuits; also available in standard coil voltages of 6, 12 or 24 VDC. Class 107 and 118 relays are available with or without an internal clamping diode. **Size:** W107, .750″ x .187″ x .250″; W117 and W118, .750″ x .210″ x .260″; W171, W172 and W173, .750″ x .275″ x .260″.

CLASS 107 DIP, SPST-NO
1 FORM A (PROFILE HEIGHT .187″)

Contacts rated 3 VA at .110 amp max. or 28 VDC resistive, max. Operate time, 200 μsec, typical. Dielectric strength, 200 VDC minimum between contacts. Contact resistance, 200 milliohms, average. Life, 10 million operations typical; longer at reduced loads.

Magnecraft Number	Coil Data: Max. Pick-up Voltage	V	Ohms*	Typical Power Required	Net Ea., Lots of*: 1-24	25-49	50-74
W107DIP-1	3.8 VDC	5	500	50 mW	$4.41	$3.97	$3.75
W107DIP-2	4.5 VDC	6	500	75 mW	3.86	3.47	3.28
W107DIP-3	9.0 VDC	12	500	300 mW	3.86	3.47	3.28
W107DIP-4	18.0 VDC	24	1200	500 mW	4.14	3.73	3.52
W107DIP-5†	3.8 VDC	5	500	50 mW	5.19	4.67	4.41
W107DIP-6†	4.5 VDC	6	500	75 mW	4.63	4.17	3.94
W107DIP-7†	9.0 VDC	12	500	300 mW	4.63	4.17	3.94
W107DIP-8†	18.0 VDC	24	1200	500 mW	4.90	4.41	4.17

CLASS 117 DIP, SPST-NO
1 FORM A (PROFILE HEIGHT .210″)

Contacts rated 10 VA at .250 amp max. or 100 VDC resistive, max. Operate time, 500 μsec, typical. Dielectric strength, 200 VDC minimum between contacts. Contact resistance, 150 milliohms, average. Life, 25 million operations, typical, longer at reduced loads. Higher rating up to .5 amp at reduced life.

W117DIP-1	3.8 VDC	5	200	125 mW	$3.92	$3.53	$3.33
W117DIP-2	4.5 VDC	6	200	180 mW	3.56	3.20	3.03
W117DIP-3	9.0 VDC	12	500	300 mW	3.56	3.20	3.03
W117DIP-4	18.0 VDC	24	1200	500 mW	3.78	3.40	3.21
W117DIP-5†	3.8 VDC	5	200	125 mW	4.75	4.28	4.04
W117DIP-6†	4.5 VDC	6	200	180 mW	4.33	3.90	3.68
W117DIP-7†	9.0 VDC	12	500	300 mW	4.33	3.90	3.68
W117DIP-8†	18.0 VDC	24	1200	500 mW	4.60	4.14	3.91

CLASS 171 DIP, SPST-NO
1 FORM A (PROFILE HEIGHT .275″)

Contacts rated at 10 VA at .250 amp max. or 100 VDC resistive, max. Operate time, 500 μsec, typical. Contact bounce, less than 200 μsec, average. Dielectric strength, 250 VDC minimum, across open contacts; 750 VAC, coil to contact. Contact resistance, 150 milliohms, average. Insulation resistance, 10^{11} ohms, minimum. Life, 25 million operations, typical; longer at reduced loads. Mechanical characteristics, shock, 100 g's at ½ sine wave, 11 μsec vibration, 100 g's, 10 to 2000 Hz. Temperature range, −55° C to +85° C.

W171DIP-1	3.8 VDC	5	200	125 mW	$3.09	$2.78	$2.63
W171DIP-2	3.8 VDC	5	500	50 mW	3.51	3.16	2.98
W171DIP-3	4.5 VDC	6	500	75 mW	3.09	2.78	2.63
W171DIP-4	9.0 VDC	12	500	290 mW	3.09	2.78	2.63
W171DIP-5	18.0 VDC	24	2200	270 mW	3.48	3.13	2.96
W171DIP-6†	3.8 VDC	5	200	125 mW	3.74	3.37	3.18
W171DIP-7†	3.8 VDC	5	500	50 mW	4.12	3.71	3.50
W171DIP-8†	4.5 VDC	6	500	75 mW	3.74	3.37	3.18
W171DIP-9†	9.0 VDC	12	500	290 mW	3.74	3.37	3.18
W171DIP-10†	18.0 VDC	24	2200	270 mW	4.12	3.71	3.50

CLASS 173 DIP, SPST-NO, 1 FORM A
POSITION-FREE MERCURY WETTED (PROFILE HEIGHT .275″)

Contacts rated 3 VA or .110 amp max. or 28 VDC max. resistive. Operate time, 500 μsec, average. Contact bounce, none, with diode suppressed coil. Dielectric strength, 250 VDC minimum, across open contacts; 750 VAC, coil to contact. Contact resistance, 150 milliohms, average. Insulation resistance, 10^{11} ohms. Life, 20 million operations, typical, longer at reduced loads. Mechanical characteristics, shock 50 g's; ½ sine wave, 11 μsec, vibration 50 g's, 10 to 2000 Hz. Temperature range, −38° C to +85° C.

W173DIP-1	3.8 VDC	5	100	250 mW	$6.25	$5.63	$5.31
W173DIP-2	4.5 VDC	6	100	360 mW	5.98	5.38	5.08
W173DIP-3	9.0 VDC	12	350	420 mW	5.98	5.38	5.08
W173DIP-4	18.0 VDC	24	1850	320 mW	6.16	5.54	5.24
W173DIP-5†	3.8 VDC	5	100	250 mW	6.95	6.26	5.91
W173DIP-6†	4.5 VDC	6	100	360 mW	6.66	5.99	5.66
W173DIP-7†	9.0 VDC	12	350	420 mW	6.66	5.99	5.66
W173DIP-8†	18.0 VDC	24	1850	320 mW	6.85	6.17	5.82

CLASS 117 DIP, DPST-NO
2 FORM A (PROFILE HEIGHT .210″)

Contacts rated 3 VA at .110 amp max. or 28 VDC resistive, max. Operate time, 200 μsec, typical. Dielectric strength, 200 VDC min. between contacts. Contact resistance, 200 milliohms, average. Life, 10 million operations, typical, longer at reduced loads.

W117DIP-9	3.8 VDC	5	200	125 mW	$6.34	$5.71	$5.39
W117DIP-10	4.5 VDC	6	200	180 mW	5.82	5.24	4.95
W117DIP-11	9.0 VDC	12	500	300 mW	5.82	5.24	4.95
W117DIP-12	18.0 VDC	24	1200	500 mW	6.17	5.55	5.24

*Resistance values ±10% measured at 25° C.
†Internal clamping diode included. Diode prevents back flow of high voltage transients.

CLASS 171 DIP, DPST-NO
2 FORM A (PROFILE HEIGHT .275″)

Contacts rated 3 VA or .110 amp max. or 28 VDC resistive, max. Operate time, 700 μsec, average. Contact bounce, less than 300 μsec, average. Dielectric strength, 200 VDC min. across open contacts; coil to contact, 750 VAC; between contact, 750 VAC. Contact resistance, 200 milliohms, average. Insulation resistance 10^{10} ohms, min. Life, 10 million operations, longer at reduced loads. Mechanical characteristics, shock 100 g's, ½ sine wave, 11 μsec. Vibration 100 g's, 10 to 200 Hz. Temp. range, −55° C to +85° C.

W171DIP-21	3.8 VDC	5	200	125 mW	$5.71	$5.14	$4.85
W171DIP-22	4.5 VDC	6	200	180 mW	5.49	4.94	4.67
W171DIP-23	9.0 VDC	12	500	290 mW	5.49	4.94	4.67
W171DIP-24	18.0 VDC	24	2200	270 mW	6.51	5.86	5.53
W171DIP-25†	3.8 VDC	5	200	125 mW	6.67	6.00	5.67
W171DIP-26†	4.5 VDC	6	200	180 mW	6.56	5.90	5.58
W171DIP-27†	9.0 VDC	12	500	290 mW	6.56	5.90	5.58
W171DIP-28†	18.0 VDC	24	2200	270 mW	6.81	6.13	5.79

CLASS 117 DIP, SPST-NC
1 FORM B (PROFILE HEIGHT .210″)

Contacts rated 3 VA at .110 amp max. or 28 VDC max. resistive. Operate time, 200 μsec, typical. Dielectric strength, 100 VDC min. between contacts. Contact resistance, 200 milliohms, average. Life, 10 million operations, longer at reduced loads. Higher ratings up to .5 amp at reduced life.

W117DIP-13	3.8 VDC	5	500	50 mW	$4.80	$4.32	$4.08

CLASS 171 DIP, SPST-NC
1 FORM B (PROFILE HEIGHT .275″)

Contacts rated 10 VA or .250 amp max. or 100 VDC max. resistive. Operate time, 400 μsec average. Contact bounce, less than 100 μsec, average. Dielectric strength, 250 VDC min. across open contacts; 750 VAC coil to contact. Contact resistance, 150 milliohms, average. Insulation resistance, 10^{11} ohms min. Life, 10 million operations, typical, longer at reduced loads. Mechanical characteristics, shock 100 g's, ½ sine wave, 11 μsec; vibration 100 g's, 10 to 2000 Hz. Temperature range, −55° C to +85° C.

W171DIP-11	3.8 VDC	5	200	125 mW	$3.95	$3.56	$3.36
W171DIP-12	3.8 VDC	5	500	50 mW	4.17	3.75	3.54
W171DIP-13	4.5 VDC	6	500	75 mW	3.95	3.56	3.36
W171DIP-14	9.0 VDC	12	500	290 mW	3.95	3.56	3.36
W171DIP-15	18.0 VDC	24	2200	270 mW	4.14	3.73	3.52
W171DIP-16†	3.8 VDC	5	200	125 mW	4.24	3.82	3.60
W171DIP-17†	3.8 VDC	5	500	50 mW	4.46	4.01	3.79
W171DIP-18†	4.5 VDC	6	500	75 mW	4.24	3.82	3.60
W171DIP-19†	9.0 VDC	12	500	290 mW	4.24	3.82	3.60
W171DIP-20†	18.0 VDC	24	2200	270 mW	4.45	4.01	3.78

CLASS 118 DIP, SPDT
1 FORM C (PROFILE HEIGHT .210″)

Contacts rated 6 VA at .250 amp max. resistive. Operate time, 500 μsec, typical. Dielectric strength, 200 VDC, min. between contacts. Contact resistance, 150 milliohms, average. Life, 5 million typical at rated load. Longer life at reduced loads. Higher rating up to .5 amp at reduced life.

W118DIP-1	3.8 VDC	5	200	125 mW	$8.60	$7.74	$7.31
W118DIP-2	4.5 VDC	6	200	180 mW	8.05	7.25	6.84
W118DIP-3	9.0 VDC	12	500	300 mW	8.05	7.25	6.84
W118DIP-4	18.0 VDC	24	1200	500 mW	8.27	7.44	7.03
W118DIP-5†	3.8 VDC	5	200	125 mW	9.38	8.44	7.97
W118DIP-6†	4.5 VDC	6	200	180 mW	8.82	7.94	7.50
W118DIP-7†	9.0 VDC	12	500	300 mW	8.82	7.94	7.50
W118DIP-8†	18.0 VDC	24	1200	500 mW	9.09	8.18	7.73

CLASS 172 DIP, SPDT
1 FORM C (PROFILE HEIGHT .275″)

Contacts rated 8 VA at .250 amp max. or 100 VDC resistive, max. Operate time, 500 μsec, average. Contact bounce, less than 200 μsec, average. Dielectric strength, 250 VDC, min. across open contacts. Contact resistance, 150 milliohms, average. Insulation resistance, 10^{10} ohms, min. Life, 10 million operations, typical, longer at reduced loads. Mechanical characteristics, shock 100 g's, ½ sine wave, 11 μsec; vibration 100 g's, 10 to 200 Hz. Temperature range, −55° C to +85° C.

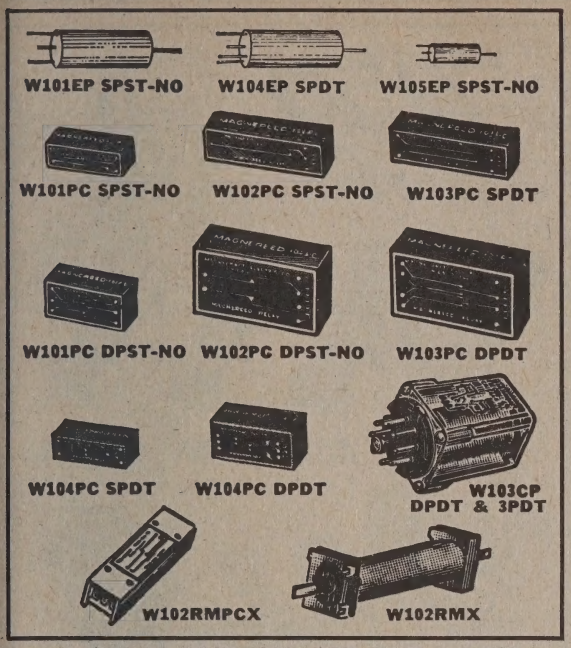
W172DIP-1	3.8 VDC	5	150	175 mW	$5.79	$5.21	$4.92
W172DIP-2	4.5 VDC	6	200	180 mW	5.48	4.93	4.66
W172DIP-3	9.0 VDC	12	500	290 mW	5.48	4.93	4.66
W172DIP-4	18.0 VDC	24	2200	270 mW	5.83	5.25	4.96
W172DIP-5†	3.8 VDC	5	150	175 mW	6.17	5.55	5.24
W172DIP-6†	4.5 VDC	6	200	180 mW	5.93	5.34	5.04
W172DIP-7†	9.0 VDC	12	500	290 mW	5.93	5.34	5.04
W172DIP-8†	18.0 VDC	24	2200	270 mW	6.29	5.66	5.35

*Resistance values ±10% measured at 25° C.
†Internal clamping diode included. Diode prevents back flow of high voltage transients.

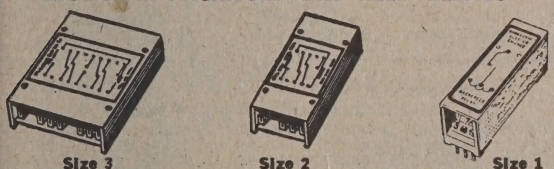
★LARGER QUANTITY DISCOUNTS

Lots of 75-99, −20%; 100-499, −30%; 500 Up, −35%. Quantities of 500 or more are bulk packed.

Magnecraft® Dry Reed Relays



MODULAR-PACKAGED DRY REED RELAYS



Modular-packaged dry reed relays ideal for printed circuit applications. Switching mechanism is hermetically sealed in glass with inert gas fill. Precious metal contacts. Unique mounting design prevents damaging stresses on reed elements. Nylon bobbin and integral mounting base mortised and rigidly riveted to epoxy resin terminal board. Snap-on metal cover provides magnetic shielding and mechanical protection. Fast acting: 2 or 3 msec, operating; 1 msec, release time. Long life: 20 million cycles at max. load; 100 million at low load. Available Form A or Form C: Form A rated 15 VA at 1 amp or 250 VAC max.; Form C rated 10 VA at ½ amp or 250 VAC max. Choice of three case sizes: **Size 1,** single Form A or C; 41/64" h. x ¾" w. x 2 5/8" lg.; requires 0.5 W DC power. **Size 2,** three Form A or two Form C; 41/64" h. x 1 1/16" w. x 2 5/8" lg.; requires 0.75 W DC power. **Size 3,** six Form A or four Form C; 41/64" h. x 1 11/64" w. x 2 5/8" lg.; requires 1.5 W DC power.

Magnecraft Number	Contacts & Size	Coil Data* mA	VDC	Ω	Av. Time, msec Operate	Release	Net Ea. 1-24*
W102MPCX-5		140	....	30	3	½	$ 3.80
W102MPCX-6		....	6	70	3	½	3.80
W102MPCX-7	SPST-NO	....	12	250	3	½	3.80
W102MPCX-8	Size 1	....	24	1000	3	½	3.80
W102MPCX-9		....	48	4000	3	½	4.00
W102MPCX-10		9	....	7000	3	½	4.80
W103MPCX-1		140	....	30	2	½	6.75
W103MPCX-2		....	6	70	2	½	6.75
W103MPCX-3	SPDT	....	12	250	2	½	6.75
W103MPCX-4	Size 1	....	24	1000	2	½	6.75
W103MPCX-5		....	48	4000	2	½	6.95
W103MPCX-6		9	....	7000	2	½	7.73
W102MPCX-48		....	6	50	3	½	6.51
W102MPCX-49	3PST-NO	....	12	175	3	½	6.51
W102MPCX-50	Size 2	....	24	750	3	½	6.68
W102MPCX-51		....	48	3000	3	½	6.91
W102MPCX-52		....	6	25	3	½	10.63
W102MPCX-53	6PST-NO	....	12	100	3	½	10.77
W102MPCX-54	Size 3	....	24	375	3	½	10.83
W102MPCX-55		....	48	1500	3	½	10.92
W103MPCX-30		....	6	50	2	½	9.65
W103MPCX-31	DPDT	....	12	175	2	½	9.65
W103MPCX-32	Size 2	....	24	750	2	½	9.80
W103MPCX-33		....	48	3000	2	½	10.04
W103MPCX-34		....	6	25	2	½	16.91
W103MPCX-35	4PDT	....	12	100	2	½	17.02
W103MPCX-36	Size 3	....	24	375	2	½	17.10
W103MPCX-37		....	48	1500	2	½	17.22

★QUANTITY DISCOUNTS

For larger quantity orders, the following discounts apply. Use price shown in tables above, and multiply with multipliers shown.

For Lots	Discount	Multiplier	For Lots	Discount	Multiplier
25-49	−10%	.90	75-99	−20%	.80
50-74	−15%	.85	100-499	−30%	.70

MAGNEREED (DRY REED) RELAYS

Stabilized contact resistance, high speed positive switching and sensitive operation; adaptable to complex logic circuits. All models have molded epoxy resin encapsulation. Pre-adjusted precious metal contacts in inert gas environment are actuated by coil around capsule. **Series W101:** 10 VA at .5 amp max. or 200 VDC max. resistive. Life, 5 million cycles at max. load; 20 million, ½-load. Cap., 1.0 pF between contacts. Size: W101EP, 1" x 7/16" dia. (Wt., 1 oz.); W101PC, SPST-NO, 1½" x ½" x 5/16" (Wt., 2 oz.); W101PC, DPST-NO, 1½" x 1 1/16" x 5/16" (Wt., 3 oz.). **Series W102:** 15 VA at 1 A max., or 250 VAC max. non-inductive. Life, 20 million cycles at max. load; 100 million ½-load. Cap., SPST, 1 pF; DPST, 1.2 pF. Size: W102PC, SPST-NO, 2¼" x 2½" x ⅝" (Wt., 3 oz.); W102PC, DPST-NO, 2¼" x 1¼" x ¾" (Wt., 4 oz.). **Series W103:** 10 VA at ½ A, or 250 VAC max. non-inductive. Life, 25 million cycles at max. load; 50 million, ½-load. Cap., SPDT, 3 pF; DPDT 3.5 pF. Operation, SPDT break before make, single side stable. Size: W103PC, SPDT, 2¼" x 2½" x ⅝" (Wt., 3 oz.); W103PC, DPDT, 2¼" x 1¼" x ¾" (Wt., 4 oz.). **Series W103CP:** Plug-in mounting type with non-metallic dust cover; has W103 relays with common operating coil. DPDT units are 8-pin; 3PDT units, 11-pin. Size, 1⅜" x 1⅜" x 2⅛" (Wt., 5 oz.). **Series W104:** 3 VA at .25 A max., or 28 V max. non-inductive. Life, 10 million cycles at rated load. No bias magnet. Size: W104EP, 1" x 7/16" dia. (Wt., 1 oz.); W104PC, SPDT, 1½" x ½" x 5/16" (Wt., 2 oz.); W104PC, DPDT, 1½" x 1 1/16" x 5/16" (Wt., 2 oz.). **Series W105:** 0.1 VA at 10 mA. Life, 10 million cycles at rated load. Size, 7/16" x ¼" dia. (Wt., ½ oz.).

Magnecraft Number	Contacts	Coil Data* mA	VDC	Ω	Av. Time, msec Operate	Release	Net Ea. 1-24*
W101EPX-5	SPST-NO	....	6	65	1	½	$ 3.80
W101EPX-6	SPST-NO	....	12	225	1	½	3.80
W101EPX-7	SPST-NO	....	24	1000	1	½	4.45
W101EPX-8	SPST-NO	8	....	5000	1	½	4.91
W101PCX-5	SPST-NO	....	6	65	1	½	5.64
W101PCX-6	SPST-NO	....	12	250	1	½	5.69
W101PCX-7	SPST-NO	....	24	1000	1	½	5.80
W101PCX-8	SPST-NO	8	....	5000	1	½	6.26
W101PCX-9	DPST-NO	....	6	40	1	½	7.89
W101PCX-10	DPST-NO	....	12	150	1	½	7.92
W101PCX-11	DPST-NO	....	24	650	1	½	7.98
W101PCX-12	DPST-NO	8	....	5000	1	½	8.47
W102PCX-1	SPST-NO	....	6	100	3	½	5.52
W102PCX-2	SPST-NO	....	12	400	3	½	5.59
W102PCX-3	SPST-NO	....	24	1500	3	½	5.64
W102PCX-4	SPST-NO	6.5	....	5000	3	½	6.16
W102PCX-5	DPST-NO	....	6	50	3	½	7.20
W102PCX-6	DPST-NO	....	12	200	3	½	7.27
W102PCX-7	DPST-NO	....	24	800	3	½	7.33
W102PCX-8	DPST-NO	9	....	5000	3	½	7.85
W103PCX-1	SPDT	....	6	100	2	½	8.36
W103PCX-2	SPDT	....	12	400	2	½	8.41
W103PCX-3	SPDT	....	24	1500	2	½	8.47
W103PCX-4	SPDT	6.5	....	5000	2	½	8.99
W103PCX-5	DPDT	....	6	50	2	½	12.47
W103PCX-6	DPDT	....	12	200	2	½	12.50
W103PCX-7	DPDT	....	24	800	2	½	12.55
W103PCX-8	DPDT	9	....	5000	2	½	13.09
W103CPX-7	DPDT	....	6	75	2	½	15.68
W103CPX-8	DPDT	....	12	300	2	½	15.71
W103CPX-9	DPDT	....	24	1000	2	½	15.77
W103CPX-10	DPDT	8	....	5000	2	½	16.46
W103CPX-11	3PDT	....	6	40	2	½	20.34
W103CPX-12	3PDT	....	12	150	2	½	20.41
W103CPX-13	3PDT	....	24	650	2	½	20.56
W103CPX-14	3PDT	10	....	5000	2	½	21.23
W104EPX-2	SPDT	....	6	65	1	1	7.74
W104EPX-3	SPDT	....	12	225	1	1	7.74
W104EPX-4	SPDT	....	24	1000	1	1	8.45
W104EPX-5	SPDT	8	....	5000	1	1	8.98
W104PCX-7	SPDT	....	6	65	1	1	10.57
W104PCX-8	SPDT	....	12	225	1	1	10.63
W104PCX-9	SPDT	....	24	1000	1	1	10.73
W104PCX-10	SPDT	8	....	5000	1	1	11.17
W104PCX-3	DPDT	....	6	40	1	1	15.32
W104PCX-4	DPDT	....	12	150	1	1	15.35
W104PCX-5	DPDT	....	24	650	1	1	15.41
W104PCX-6	DPDT	8	....	5000	1	1	15.89
W105EPX-1	SPST-NO	....	6	90	1	1	7.45
W105EPX-2	SPST-NO	....	12	350	1	1	7.45
W105EPX-3	SPST-NO	....	24	1300	1	1	7.30

3 AMP SPST-NO POWER DRY REED RELAYS

Low profile, printed circuit mounted relay with contact rating formerly available only in general purpose or telephone type relays. Housed in molded nylon bobbin with snap-on, steel cover for mechanical and magnetic shielding. Switch mechanism in hermetically-sealed glass capsule. **Contacts:** SPST-NO (Form A). **Rating:** 100 VA at 3 A or 250 V max. **Power:** 0.5 W nominal; 2 watts max. **Size:** 2⅝" x 41/64" x ¾". Wt., 3 oz.

Magnecraft Number	Coil Data* mA	VDC	Ω	Net Each, Lots of 1-24	25-49	50-74	75-99	100-499
W102RMPCX-1	....	6	70	$9.10	$8.19	$7.74	$7.29	$6.37
W102RMPCX-2	....	12	250	9.10	8.19	7.74	7.29	6.37
W102RMPCX-3	....	24	1000	9.19	8.27	7.80	7.34	6.43
W102RMPCX-4	....	48	4000	9.47	8.53	8.05	7.57	6.63
Similar to above, but with inline leads and size: 3¼" x ½" x 1 3/32".								
W102RMX-5	....	6	200	$5.07	$4.57	$4.31	$4.06	$3.54
W102RMX-6	....	12	500	5.12	4.61	4.36	4.09	3.59
W102RMX-7	....	24	2000	5.26	4.74	4.47	4.20	3.69
W102RMX-8	....	48	5000	5.50	4.94	4.68	4.40	3.85

*COIL DATA

Current shown is pull-in at specified value or less. Voltage shown is nominal. Pull-in at 80% of nominal or less for DC relays; 85% of nominal for AC relays at 25° C. Resistance shown is ±10% at 25° C.

MINIATURE PC DRY REED RELAYS

Modular, printed circuit dry reed relays are fast, reliable and compact. Hermetically sealed in glass capsule filled with inert gas. Reed support terminals rigidly anchored to molded nylon bobbin; welded to switch leads for maximum insulation. Terminal pins spaced for .1" grid centers. Magnetically shielded and mechanically protected by snap-on steel cover. **Contact Resistance:** 150 milliohms avg. **Life:** W101, 5 million cycles at rated load; W104, 10 million cycles. **Rating:** W101, 10 VA, 500 mA max. or 200 VDC max., non-inductive; W104, 3 VA, 250 mA max. or 28 V max., non-inductive. **Size 1:** Single Form A or C, 3/8" h. x 11/64" w. x 1 1/8" lg.; requires 500 mWDC power. Weight, 1 oz. **Size 2:** Three form A or two Form C, 3/8" h. x 11/64" w. x 1 1/8" lg.; requires 700 mWDC power. Weight, 1 oz.

Magnecraft Number	Contacts, Size & Form	Coil Data* mA	VDC	Ω	Avg. Time, msec Operate	Release	Net Ea. 1-24•
W101MPCX-1	SPST-NO	6	70	1	½		$ 3.60
W101MPCX-2	Size 1	12	300	1	½		3.60
W101MPCX-3	Form A	24	1100	1	½		3.63
W101MPCX-4		48	4300	1	½		3.77
W101MPCX-5	3PST-NO	6	50	1	½		6.75
W101MPCX-6	Size 2	12	220	1	½		6.75
W101MPCX-7	3 Form A	24	850	1	½		6.77
W101MPCX-8		48	3300	1	½		6.85
W104MPCX-1	SPDT	6	70	1	½		6.82
W104MPCX-2	Size 1	12	300	1	½		6.83
W104MPCX-3	Form C	24	1100	1	½		6.85
W104MPCX-4		48	4300	1	½		6.98
W104MPCX-5	DPDT	6	50	1	½		11.62
W104MPCX-6	Size 2	12	220	1	½		11.63
W104MPCX-7	2 Form C	24	850	1	½		11.65
W104MPCX-8		48	3300	1	½		11.73

MICRO-MINIATURE DRY REED PC RELAYS

Low profile, plug-in relays for printed circuit use. Same construction as miniature types, above. **Contact Resistance:** 200 milliohms avg. **Life:** 10 million cycles at rated load. **Rating:** 110 mVA max. at 10 mA max. or 12 V max., non-inductive. **Size:** 11/64" h. x 1/16" w. x 5/8" lg. Weight, 1/2 oz.

W105MPCX-1	SPST-NO	6	120	½	¼		$5.72
W105MPCX-2	SPST-NO	12	500	½	¼		5.74
W105MPCX-3	SPST-NO	24	2000	½	¼		5.86

OPEN STYLE AXIAL LEAD DRY REED RELAYS

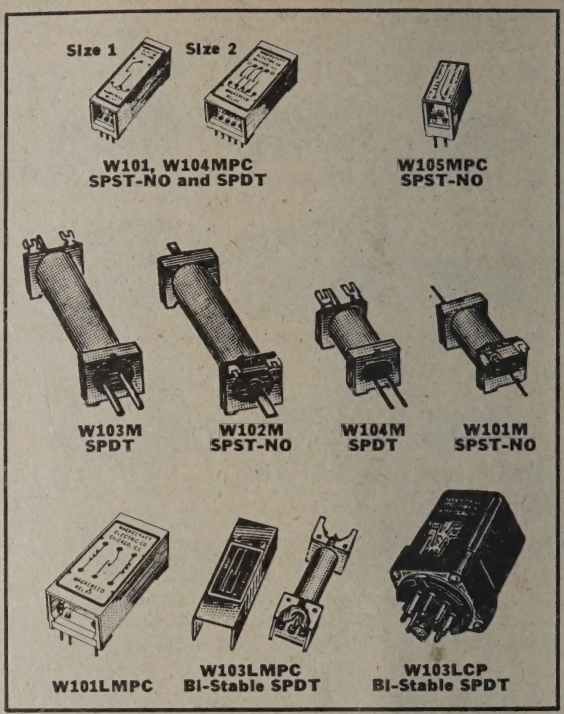
Low cost reed relays give optimum reliability and fast operation. Tinned leads are specially fastened to a molded nylon bobbin for stress relief on glass capsule during soldering. Rugged coil terminal inserts eliminate possibility of shorts. Contacts hermetically sealed with inert gas in glass capsule; free from dust contamination, moisture or tampering. Tinned terminals for circuit mounting. No. 16-265-6 clip available for clip mounting. Choice of 2 sizes; 2 contact arrangements. **Series W101MX:** Miniature; SPST-NO (1 Form A) contacts rated 10 VA max. at .5 A max. or 200 VDC max. resistive. Coil 600 mW nominal. Cap., 0.3 pF avg. between contacts. Life, 5 million operations typical. Size, 2 1/4" lg. x 1/2" w. x 7/16" h., including leads. **Series W102MX:** Standard size; SPST-NO (1 Form A) contacts rated 15 VA max. at 1 A max. or 250 VAC max. resistive. Coil, 300 mW nominal. Cap., 0.9 pF avg. between contacts. Life, 20 million operations typ. Size, 3 1/4" lg. (incl. leads) x 19/32" w. x 1/2" h. **Series W103MX:** Standard size; SPDT (1 Form C) contacts rated 10 VA max. at 0.5 A max. or 250 VAC max. resistive. Coil, 300 mW nominal. Cap., 3.0 pF avg. between contacts. Life, 25 million operations typ. Size, 3 7/8" lg. (incl. leads) x 19/32" w. x 1/2" h. **Series W104MX:** Miniature; SPDT (1 Form C) contacts rated 3 VA max. at 0.25 A max. or 28 VAC max. resistive. Coil, 600 mW nominal. Cap., 1.3 pF avg. across contacts. Life, 10 million operations typ. Size, 1" x 7/16" x 1/2" (not incl. leads).

W101MX-1	SPST-NO	6	100	1	0.5		$2.20
W101MX-2	(1 Form A)	12	250	1	0.5		2.25
W101MX-3	Min.	24	500	1	0.5		2.25
W101MX-4		9	2500	1	0.5		2.43
W102MX-1		40	100	3	0.5		2.52
W102MX-2	SPST-NO	6	200	3	0.5		2.60
W102MX-3	(1 Form A)	12	500	3	0.5		2.60
W102MX-4	Std.	24	2000	3	0.5		2.86
W102MX-5		5.5	5000	3	0.5		3.05
W104MX-1	SPDT	6	100	1	1		5.91
W104MX-2	(1 Form C)	12	250	1	1		5.96
W104MX-3	Min.	24	500	1	1		5.96
W104MX-4		9	2500	1	1		6.16
W103MX-1	SPDT	6	200	2	0.5		4.89
W103MX-2	(1 Form C)	12	500	2	0.5		4.89
W103MX-3	Std.	24	2000	2	0.5		5.15
W103MX-4		5.5	5000	2	0.5		5.34

MINIATURE LATCHING REED RELAYS

Miniature latching reed relay uses no standby power or permanent biasing magnet to perform memory function. **Operate Time:** 1 msec, average. **Typical Life:** 1 million operations; longer at reduced loads. **Duty Cycle:** Intermittent. **Contact Rating:** 3 VA at .010 amp or 28 VDC, resistive. **Size:** 1 1/8" x 3/8" x 33/64". Weight, 1 oz. approx.

Magnecraft Number	Contacts	Coil VDC* Min.	Nom.	Max.	Coil Ohms*	Net Ea. 1-24•
W101LMPCX-10	SPST	4	5	6	20/150	$9.66
W101LMPCX-11	SPST	4	6	8	30/250	9.66
W101LMPCX-12	SPST	10	12	14	85/585	9.66
W101LMPCX-13	SPST	22	24	26	265/3200	9.66



CLASS W103LMPC MAGNETIC LATCHING (BI-STABLE) DRY REED RELAYS

Biased permanent magnet holds either contact position; no coil current required. Ideal for memory applications. Coil current polarity reversed for single wound coils; separate polarized windings on double-wound coils have individual input terminals. Modular construction and printed circuit terminals for rugged, dependable use. **Contacts:** SPDT (Form C, Bi-Stable) break-before-make. **Rating:** 10 VA, 200 V maximum or 0.2 amp maximum non-inductive. **Power:** 0.15 W nominal and 2 W max., single wound; 0.2 W nominal and 2 W max., double wound. **Average Time:** 2 msec operate and release. **Life:** Twenty-five million cycles at rated load. **Size:** 2 5/8" x 41/64" x 3/4". Weight, 1 oz.

Magnecraft Number‡	Coil Data* mA	VDC	Ω	Net Each, Lots of 1-24	25-49	50-74	75-99	100-499
W103LMPCX-3	40		70	$8.57	$7.71	$7.29	$6.86	$6.00
W103LMPCX-4		6	250	8.57	7.71	7.29	6.86	6.00
W103LMPCX-5		12	1000	8.57	7.71	7.29	6.86	6.00
W103LMPCX-6		24	4000	8.80	7.92	7.48	7.05	6.16
W103LMPCX-7	4.0		7000	9.71	8.75	8.26	7.78	6.80
W103LMPCX-8	80		30†	9.97	8.98	8.48	7.98	6.97
W103LMPCX-9		6	120†	10.11	9.10	8.59	8.09	7.08
W103LMPCX-10		12	460†	10.11	9.10	8.59	8.09	7.08
W103LMPCX-11		24	1800†	10.91	9.83	9.27	8.73	7.65
W103LMPCX-12	8.0		3000†	12.18	10.96	10.35	9.74	8.53

CLASS W103LCP PLUG-IN LATCHING (BI-STABLE) REED RELAYS

Magnetic latching action; requires no coil current to hold either of two latching positions. Single wound coil (Types W103LCPX-7 to -10) switching is achieved by reversing coil current polarity. Double wound coil (-11 to -14) has separate polarized winding; switching is achieved by use of dual input. Enclosed plug-in construction. **Contacts:** SPDT. **Contact Resistance:** 150 milliohms average. **Contact Load Rating:** 10 VA at 0.2 amp maximum or 200 VDC maximum, resistive. **Typical Life:** 25 million operations (longer at reduced loads). **Operate Time:** 2 milliseconds average. **Contact Bounce:** 2 milliseconds average. **Capacitance:** 4.0 pF average, across contacts. **Size:** 1 3/8" x 1 3/8" x 2 1/8" high. Wt., 5 oz.

W103LCPX-7		6	250	$10.08	$9.06	$8.56	$8.06	$7.05
W103LCPX-8		12	1000	10.11	9.10	8.59	8.09	7.08
W103LCPX-9		24	4000	10.40	9.36	8.83	8.32	7.28
W103LCPX-10	4		7000†	10.67	9.61	9.06	8.54	7.47
W103LCPX-11		6	120†	11.97	10.77	10.18	9.57	8.37
W103LCPX-12		12	460†	12.09	10.88	10.29	9.68	8.47
W103LCPX-13		24	1800†	12.16	10.93	10.33	9.72	8.50
W103LCPX-14	8		3000†	12.52	11.28	10.64	10.01	8.77

†Ohms per coil. ‡Series W103LMPCX3-7, single wound coils; Series W103LMPCX8-12, double wound coils.

*COIL DATA: Current shown is pull-in at specified value or less. Voltage shown is nominal. Pull-in at 80% of nominal or less for DC relays; 85% of nom. for AC relays at 25° C. Resistance shown is ±10% at 25° C.

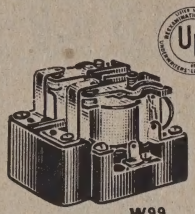
• **Quantity Discounts:** Lots 25-49, −10%; 50-74, −15%; 75-99, −20%; 100-499, −30%; write for discounts on larger quantities.

CLASS 99 HEAVY DUTY POWER RELAYS

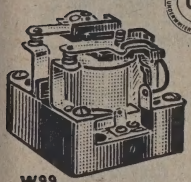
UL LISTED FOR HEAVY DUTY INDUSTRIAL CONTROL

Relays illustrated with UL emblem are listed by Underwriters Laboratories under Motor Controller, Magnetic, Across The Line Starter: Open (File No. E43641). The only exception is W99AX-7, DPDT, 440 VAC relay, indicated by †.

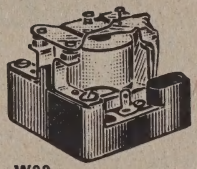
W99 SPDT



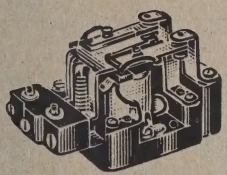
W99 DPDT



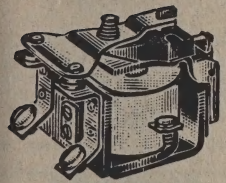
W99 DPST-NO



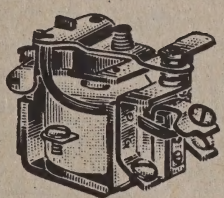
W99 SPST-NO-DM



W99 with Aux Snap Switch



W99SD SPST-NO-DM



W99S SPDT

Rugged, precision-built hinge pin armature bearings for extra long life. Lowest friction and maximum contact effectiveness. Dimensionally interchangeable with other power relays of the clapper type. Heavy duty plastic base and molded contact barrier mounted to armature for high insulation resistance. Positive contact wiping action. Heavy duty screw terminals. Molded coil bobbin. **Contacts:** Silver alloy, 5/16" dia., gold flashed. Choice of SPDT, DPDT, DPST-NO and SPST-NO double break. **Size:** SPDT 25-amp, 2 3/16" sq. x 2 1/2" h.; DPDT 25-amp, 3 3/16" w. x 2 1/2" d. x 2 3/8" h.; DPST-NO 25-amp, 2 1/2" sq. x 2 3/8" h.; SPST-NO-DM 50-amp, 2 1/2" sq. x 2 3/16" h.

Magnecraft Number	Contacts		Coil Data*		Net Ea., 1-9*
	Configuration	Rating	Volts	Ohms	
W99AX-1	SPDT	25 A	24 VAC	.....	$6.53
W99AX-2	SPDT	25 A	115 VAC	.....	6.56
W99AX-3	SPDT	25 A	230 VAC	.....	6.77
W99X-1	SPDT	25 A	6 VDC	18	6.43
W99X-2	SPDT	25 A	12 VDC	70	6.43
W99X-3	SPDT	25 A	24 VDC	290	6.45
W99X-4	SPDT	25 A	110 VDC	6000	6.92
W99AX-4	DPDT	25 A	24 VAC	.....	9.20
W99AX-5	DPDT	25 A	115 VAC	.....	9.20
W99AX-6	DPDT	25 A	230 VAC	.....	9.42
W99AX-7†	DPDT	25 A	440 VAC	.....	9.47
W99X-5	DPDT	25 A	6 VDC	18	9.30
W99X-6	DPDT	25 A	12 VDC	70	9.30
W99X-7	DPDT	25 A	24 VDC	290	9.32
W99X-8	DPDT	25 A	110 VDC	6000	9.77
W99AX-8	DPST	25 A	24 VAC	.....	7.19
W99AX-9	DPST	25 A	115 VAC	.....	7.21
W99AX-10	DPST	25 A	230 VAC	.....	7.41
W99X-9	DPST	25 A	6 VDC	18	7.21
W99X-10	DPST	25 A	12 VDC	70	7.21
W99X-11	DPST	25 A	24 VDC	290	7.24
W99X-12	DPST	25 A	110 VDC	6000	7.68
W99ADX-1	SPST-NO-DM	50 A	24 VAC	.....	6.22
W99ADX-2	SPST-NO-DM	50 A	115 VAC	.....	6.22
W99ADX-3	SPST-NO-DM	50 A	230 VAC	.....	6.45
W99DX-1	SPST-NO-DM	50 A	6 VDC	18	6.18
W99DX-2	SPST-NO-DM	50 A	12 VDC	70	6.18
W99DX-3	SPST-NO-DM	50 A	24 VDC	290	6.20
W99DX-4	SPST-NO-DM	50 A	110 VDC	6000	6.63

CLASS 99 DPDT RELAYS WITH SPDT AUX SNAP SWITCH

DPDT power contacts rated 25 amps or 1 hp, SPDT snap switch rated 22 amps. Nominal power, 10 VA. Size, 4 1/2" x 2 1/2" x 2 3/8" h.

W99AX-56	DPDT	25 A	115 VAC	.....	$16.51
W99AX-57	(Relay)	25 A	230 VAC	.....	16.73

CLASS 99S HEAVY DUTY POWER RELAYS

Same as Class 99, without phenolic base. **Size:** SPST-NO-DM 50-amp, 2" x 2 1/2" x 1 5/16" high; SPDT 25-amp, 2" x 2 7/8" x 1 15/16" h.

W99SADX-1	SPST-NO-DM	50 A	24 VAC	.....	$7.03
W99SADX-2	SPST-NO-DM	50 A	115 VAC	.....	7.13
W99SADX-3	SPST-NO-DM	50 A	230 VAC	.....	7.37
W99SDX-1	SPST-NO-DM	50 A	6 VDC	18	6.85
W99SDX-2	SPST-NO-DM	50 A	12 VDC	70	6.85
W99SDX-3	SPST-NO-DM	50 A	24 VDC	290	6.89
W99SDX-4	SPST-NO-DM	50 A	110 VDC	6000	7.23
W99SAX-1	SPDT	25 A	24 VAC	.....	8.26
W99SAX-2	SPDT	25 A	115 VAC	.....	8.31
W99SAX-3	SPDT	25 A	230 VAC	.....	8.56
W99SX-1	SPDT	25 A	6 VDC	18	7.99
W99SX-2	SPDT	25 A	12 VDC	70	8.00
W99SX-3	SPDT	25 A	24 VDC	290	8.04
W99SX-4	SPDT	25 A	110 VDC	6000	8.39

***COIL DATA:** Voltage shown is nominal. Pull-in at 80% of nominal or less for DC relays; 85% of nominal for AC relays at 25° C. Resistance shown is ±10% at 25° C.

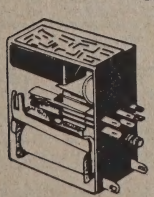
★WRITE FOR LARGER QUANTITY PRICES

CLASS 99B, 99DB HEAVY DUTY POWER RELAYS WITH BLOWOUT MAGNET FOR DC ARC-QUENCHING

Nominal power, AC, 10 VA; DC, 2.0 watts. Size, 99B, 3 3/16" x 2 1/2" x 2 7/16" h.; 99DB, 2 1/2" x 2 1/2" x 2 3/16" h.

Magnecraft Number	Contacts		Coil Data*		Net Ea., 1-9*
	Configuration	Rating	Volts	Ohms	
W99ABX-6	DPDT	10 A	115 VAC	.....	$14.87
W99ABX-7	DPDT	10 A	230 VAC	.....	15.23
W99BX-10	DPDT	10 A	110 VDC	6000	15.05
W99BX-11	DPDT	10 A	220 VDC	20000	17.72
W99ADBX-2	SPST-NO-DM	20 A	115 VAC	.....	9.94
W99ADBX-3	SPST-NO-DM	20 A	230 VAC	.....	10.31
W99DBX-5	SPST-NO-DM	20 A	110 VDC	6000	10.12
W99DBX-6	SPST-NO-DM	20 A	220 VDC	20000	12.80

CLASS 67CP MINATURE SOLID STATE TIME DELAY



Magnecraft Number	Input VDC	Timing Range (Slow Operate)	External Resistance	Net Ea. 1-9
W67CPSOX-1	12	.1–30 sec.	Internal Potentiometer Adjusted	$21.98
W67CPSOX-2	24	.1–30 sec.		21.98
W67CPSOX-3	12	1–240 sec.		23.78
W67CPSOX-4	24	1–240 sec.		23.78
W67CPSOX-5	12	.1–30 sec.	External Resistor Needed	18.07
W67CPSOX-6	24	.1–30 sec.		17.71
W67CPSOX-7	12	1–240 sec.		19.91
W67CPSOX-8	24	1–240 sec.		19.91

Makes use of hybrid circuitry, combining a solid state for the timing function with a miniature industrial relay for up to 4PDT 5 ampere output switching. Contacts: DPDT as standard, 5 amps @ 28VDC or 115VAC resistive load; DC operation of 12 or 24VDC as standard (other voltages available on special order; ±2% Repeatability; Temperature range −10 to 55°C.

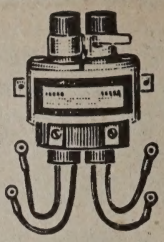
MERCURY DISPLACEMENT POWER RELAYS

CLASS ASX 20 AMP

MINIATURE ARMORED POWER RELAYS

Hi-power 20 amp mercury-to-mercury relay equipped with armored, impact-protected encapsulated tubes. Size, 3″ w. x 2⅛″ d. x 3½″ h. max.

Magnecraft Number	Contacts	Coil Volts* 50/60 Hz	Net Each, Lots of 1-9	10-49	50 Up*
WASX-1	SPST-NO	120 VAC	$15.91	$13.92	$12.53
WASX-1	SPST-NO	240 VAC	16.69	14.60	13.14
WASX-2	SPST-NC	120 VAC	16.43	14.38	12.94
WASX-11	DPST-NO	120 VAC	29.35	25.68	23.11



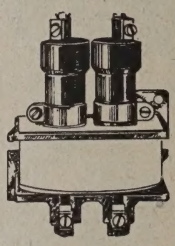
ASX-11

M35A

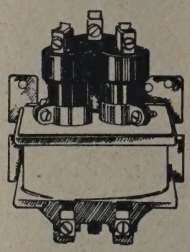
35 AMP MERCURY DISPLACEMENT RELAYS

Hi-power 35 amp SPST, DPST, 3PST mercury relay with steel tube design. Hermetically sealed and pressurized with hydrogen for rapid arc suppression. Contact arrangement—mercury to metal; contact resistance—.002 ohm; temperature range— −35° to 75°C. UL Listed.

Magnecraft Number	Contacts 35 Amps	Coil Volts 50/60 Hz	Net Ea. 1-9
WM35A-120A	SPST-NO	120 VAC	$13.35
WM35B-120A	SPST-NC	120 VAC	14.39
WM35A-240A	SPST-NO	240 VAC	13.35
WM35AA-120A	DPST-NO	120 VAC	23.76
WM35AAA-120A	3PST-NO	120 VAC	35.27

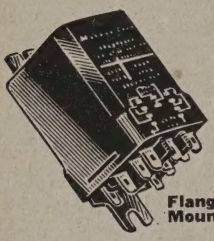


M35AA

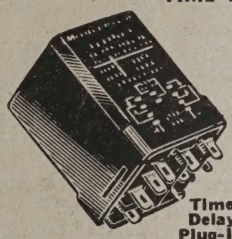


M35AAA

TIME DELAY RELAYS



Flange Mount



Time Delay Plug-in

NEW CLASS 388 LOW COST SOLID STATE HYBRID, TIME DELAY RELAYS

Plug-in or flange-mount models. Immune to false operation. Repeatability, ±3% under fixed conditions, 25° C, 120 VAC; ±10% over voltage and temperature extremes. Contacts, 10 amp DPDT at 28 VDC or 115 VAC, res. Input voltage for Model Nos. W388ACPSOX-1, and -2, and W388ACQSOX-1, and -2, 120 VAC; W388CPSOX-1, and -2, and W388CQSOX-1, and -2, 24 VDC. Steady state current, 20 mA at 120 VAC, 60 mA at 24 VDC. Transient and polarity protection to twice input voltage for 8 ms. Reset and recycle time, less than 100 ms. Tough, crackproof dust cover. Size, Flange-Mount, 1 17/32″ w. x 1 13/32″ d. x 2 29/32″ h.; Plug-In, 1 17/32″ w. x 1 13/32″ d. x 1 29/32″ h., overall.

PLUG-IN MODELS

Magnecraft Number	Timing Range, Secs	External Resistor* Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99*
W388ACPSOX-1	1–10	200K	$16.32	$15.50	$14.69	$13.05
W388ACPSOX-2	1–120	2.4 megs	17.76	16.87	15.97	14.20
W388CPSOX-1	1–10	160K	18.80	17.86	16.93	15.04
W388CPSOX-2	1–120	2 megs	20.40	19.38	18.35	16.32

FLANGE-MOUNT MODELS

W388ACQSOX-1	1–10	200K	$16.32	$15.50	$14.69	$13.05
W388ACQSOX-2	1–120	2.4 megs	17.76	16.87	15.97	14.20
W388CQSOX-1	1–10	160K	18.80	17.86	16.93	15.04
W388CQSOX-2	1–120	2 megs	20.40	19.38	18.35	16.32

*Resistor not furnished.

CLASS 214CP COMPACT, PLUG-IN SOLID STATE (HYBRID) TIME DELAY RELAY

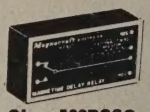
Fully adjustable time delay offers ±5% repeatability in a size equivalent to general purpose types. Time delay on operate. Contacts DPDT, rated 5 amps at 32 VDC or 115 VAC resistive. Enclosed in molded dust cover with 8-pin octal plug. **Size:** 2½″ x 1⅜″ x 1⅜″. Weight, 3 oz.

Magnecraft Number	Coil V*	Timing Secs	Net Each, Lots of 1-9	10-24	25-49	50-99*
W214ACPSOX-1	120	.300–30	$26.09	$24.79	$23.49	$20.87
W214ACPSOX-2	AC	3–240	26.09	24.79	23.49	20.87
W214CPSOX-3	24	.300–30	26.09	24.79	23.49	20.87
W214CPSOX-4	DC	3–240	26.09	24.79	23.49	20.87

***COIL DATA**

Voltage shown is nominal. Pull-in at 80% of nominal or less for DC relays; 85% of nominal for AC relays at 25° C. Resistance shown is ±10% at 25° C.

Class 214CP



Class 502PCSO (1 Form A) Class 503PCSO (1 Form C)

Class 502PCSR (1 Form A) Class 503PCSR (1 Form C)

CLASS 502 AND 503 SLOW OPERATE PC TIME DELAYS

Hybrid circuitry combines monolythic silicon structure for timing function and dry reed relay for isolated circuit switching. Encapsulated, fully-protected construction has low profile for printed circuit mounting. Polarity protection is standard. **Repeatability:** ±5% accurate. **Size:** 2¼″ x 1¼″ x ¾″. Wt., approx. 2 oz.

Class 502PCSO: SPST-NO (Form A) contacts rated 1 amp at 15 VA or 250 VAC max. resistive.

Magnecraft Number	Coil V*	Timing Range	Net Each, Lots of 1-9	10-24	25-49	50-99*
W502PCSOX-2	12	100 msec	$21.96	$20.85	$19.76	$17.57
W502PCSOX-3	24	to 100 sec†	21.96	20.85	19.76	17.57
W502PCSOX-5	12	3 sec	24.66	23.43	22.20	19.74
W502PCSOX-6	24	to 5 min.‡	24.66	23.43	22.20	19.74

Class 503PCSO: SPDT (Form C) contacts rated 0.5 amp at 10 VA or 250 VAC max. resistive.

W503PCSOX-2	12	100 msec	$24.10	$22.90	$21.68	$19.28
W503PCSOX-3	24	to 100 sec†	24.10	22.90	21.68	19.28
W503PCSOX-5	12	3 sec	25.83	24.54	23.25	20.66
W503PCSOX-6	24	to 5 min.‡	25.83	24.54	23.25	20.66

External adjustment: †50K ohms/sec; ‡10K ohms/sec.

CLASS 502 AND 503 SLOW RELEASE PC TIME DELAYS

Makes use of hybrid circuitry: Monolythic silicon structure for timing function; dry reed relay performs isolated circuit switching with ±2% repeatability. Low profile design for printed circuit mounting is fully protected by encapsulation. **Size:** 2¼″ x 1¼″ x ¾″. Wt., approx. 2 oz.

Class 502PCSR: SPST-NO (Form A) contacts rated 1 amp at 15 VA or 250 VAC max. resistive.

Magnecraft Number	Coil V*	Timing Range	Net Each, Lots of 1-9	10-24	25-49	50-99*
W502PCSRX-2	12	200 msec	$30.94	$29.40	$27.85	$24.76
W502PCSRX-3	24	to 100 sec†	30.94	29.40	27.85	24.76
W502PCSRX-5	12	1 sec	34.55	32.81	31.09	27.63
W502PCSRX-6	24	to 5 min.‡	34.55	32.81	31.09	27.63

Class 503PCSR: SPDT (Form C) contacts rated 0.5 amp at 10 VA or 250 VAC resistive.

W503PCSRX-2	12	200 msec	$33.10	$31.45	$29.79	$26.48
W503PCSRX-3	24	to 100 sec†	33.10	31.45	29.79	26.48
W503PCSRX-5	12	1 sec	36.70	34.87	33.03	29.36
W503PCSRX-6	24	to 5 min.‡	36.70	34.87	33.03	29.36

External adjustment: †50K ohms/sec; ‡10K ohms/sec.

★LARGER QUANTITY PRICES ON REQUEST

CLASS 97 ENCLOSED PLUG-IN OR STUD-MOUNTING 25 AMP POWER RELAYS—UL RECOGNIZED (FILE NO. E31481)

Class 97 is a low cost 25 amp relay for 1 or 2 pole, 120/240 VAC applications. Available with socket for plug-in applications or for use with standard quick-connect terminals for simplicity and ease in wiring. Class 97 relays offer high quality, dependable performance and long life. Ideal for use in appliances, automation equipment, motor starting and heater circuits, clock controlled systems, laundry equipment, vending machines, machine tools, furnace controls, panel boards and air conditioners. Holding circuit permits sustaining operation of the relay from momentary switches, without sacrificing one of the heavy duty load contacts where the coil voltage may be different from the load circuit voltage.

STUD MOUNTING TYPE

Magnecraft Number	Coil		Wiring Diagram	Net Each, Lots of					
	Volts	Ohms		1-9	10-24	25-49	50-99	100-499	500 Up
W97ACSX-1	12 VAC	3.5	A	$12.72	$12.08	$11.45	$10.18	$8.90	$7.63
W97ACSX-2	24 VAC	13.2	A	12.60	11.98	11.34	10.08	8.82	7.56
W97ACSX-3	115 VAC	265	A	12.72	12.08	11.45	10.18	8.90	7.63
W97ACSX-4	220 VAC	920	A	12.60	11.98	11.34	10.08	8.82	7.56
W97CSX-1	12 VDC	58	A	12.41	11.78	11.17	9.92	8.69	7.44
W97CSX-2	24 VDC	220	A	12.41	11.78	11.17	9.92	8.69	7.44

PLUG-IN TYPE

W97ACPX-1	12 VAC	3.5	A	$12.41	$11.78	$11.17	$ 9.92	$8.69	$7.44
W97ACPX-2	24 VAC	13.2	A	12.17	11.56	10.96	9.73	8.52	7.30
W97ACPX-3	115 VAC	265	A	12.41	11.78	11.17	9.92	8.69	7.44
W97ACPX-4	220 VAC	920	A	12.60	11.98	11.34	10.08	8.82	7.56
W97CPX-1	12 VDC	58	A	12.17	11.56	10.96	9.73	8.52	7.30
W97CPX-2	24 VDC	220	A	12.17	11.56	10.96	9.73	8.52	7.30

HOLDING CIRCUIT (PLUG-IN)

W97ALCPX-1	115 VAC	265	B	$14.42	$13.70	$12.98	$11.54	$10.09	$8.65
W97ALCPX-2	220 VAC	920	B	14.71	13.98	13.24	11.76	10.30	8.83

SOCKETS FOR CLASS 97

Magnecraft Number	Net Each, Lots of					
	1-9	10-24	25-49	50-99	100-499	500 Up
70-311	$2.06	$1.96	$1.85	$1.65	$1.44	$1.34
70-312	2.35	2.23	2.12	1.88	1.65	1.53
70-313*	3.13	2.97	2.82	2.50	2.19	2.03
70-314†	3.18	3.02	2.86	2.54	2.23	2.07

*Use with holding circuit. †UL Recognized.

CLASS 96 GENERAL PURPOSE POWER RELAY

Continuous duty general purpose power relay available in AC or DC with DPDT (2C) and SPDT-DB-DM (1Z) contact arrangements. Excellent for general industrial power control circuits. Silver cadmium oxide contacts rated at 15 or 30 amps at 28 VDC or 115 VAC resistive. **Mounting Data:** 4 tapped holes 6-32 NC-2; ½" x 1 5/16" centers. **Size:** 1½" x 1 21/32" x 1⅞". Weight, 4.4 oz.

Magnecraft Number	Contacts		Coil		Net Each, Lots of				
	Form	Amps	Volts	Ohms	1-24	25-49	50-74	75-99	100-249
W96AX-1	DPDT	15	6 VAC	1.8	$9.94	$9.45	$8.95	$6.96	$6.47
W96AX-2	DPDT	15	24 VAC	28.8	9.94	9.45	8.95	6.96	6.47
W96AX-3	DPDT	15	115 VAC	661	9.94	9.45	8.95	6.96	6.47
W96AX-4	DPDT	15	220 VAC	2647	10.43	9.91	9.39	7.30	6.78
W96X-1	DPDT	15	6 VDC	14	9.64	9.16	8.69	6.75	6.27
W96X-2	DPDT	15	12 VDC	56	9.64	9.16	8.69	6.75	6.27
W96X-3	DPDT	15	24 VDC	230	9.64	9.16	8.69	6.75	6.27
W96X-4	SPDT-	30	6 VDC	14	10.00	9.50	9.00	7.00	6.50
W96AX-5	DB-DM	30	115 VAC	661	10.32	9.79	9.28	7.22	6.70

CLASS 93 20 AMP POWER RELAYS AC/DC OPERATION

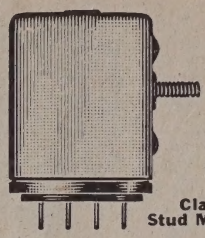
Designed and constructed with a variety of features that contribute to the sensitivity and longevity of the relay. Contacts and terminals are mounted on molded phenolic blocks with integral barriers. Movable contact blades are made of spring temper phosphor bronze for high conductivity and long life. Adjusting screws on each blade permit close adjustment. Armature pivots on machined phosphor bronze bearing pins and pivot holes are precision reamed. **Mounting Data:** 4 tapped holes 6-32 NC-2, ½" x 1 5/16" centers. **Contacts:** ¼" dia. silver, 20 amps resistive at 115 VAC or 28 VDC. **Size:** 3PDT, 2" x 1 13/16" x 2 5/16"; 5PDT, 2" x 2 5/16" x 2 5/16".

DC VOLTAGE SPECIFIED

Magnecraft Number	20 Amp Contacts	Coil		Net Each, Lots of				
		VDC	Ohms	1-24	25-49	50-99	100-249	250 Up
W93X-1	3PDT	6	14	$ 9.43	$ 8.95	$ 8.48	$6.60	$6.13
W93X-2	5PDT	6	10	13.76	13.07	12.39	9.63	8.93
W93X-3	3PDT	24	218	9.43	8.95	8.48	6.60	6.13
W93X-4	5PDT	24	164	13.76	13.07	12.39	9.63	8.93
W93X-5	3PDT	110	4580	9.80	9.32	8.82	6.86	6.38
W93X-6	5PDT	110	3430	14.14	13.43	12.73	9.90	9.20

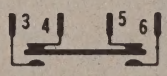
AC VOLTAGE SPECIFIED

Magnecraft Number	20 Amp Contacts	Coil		Net Each, Lots of				
		VAC	Ohms	1-24	25-49	50-99	100-249	250 Up
W93AX-1	3PDT	6	.8	$ 9.43	$ 8.95	$ 8.48	$6.60	$6.13
W93AX-2	5PDT	6	.6	13.76	13.07	12.39	9.63	8.93
W93AX-3	3PDT	24	12.5	9.43	8.95	8.48	6.60	6.13
W93AX-4	5PDT	24	9.6	13.76	13.07	12.39	9.63	8.93
W93AX-5	3PDT	115	253	9.43	8.95	8.48	6.60	6.13
W93AX-6	5PDT	115	194	13.76	13.07	12.39	9.63	8.93


Class 97 Stud Mounting

70-312, 70-313, 70-314

70-311



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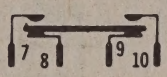

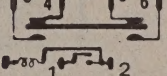

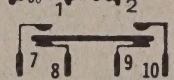

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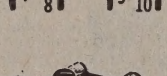
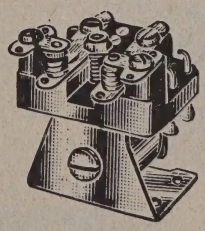
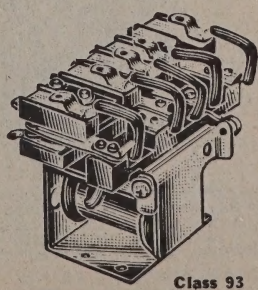



Class 96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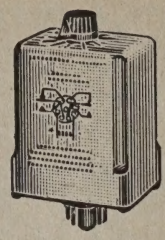
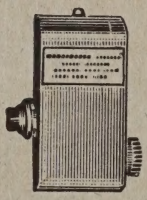

211CP, 213CP

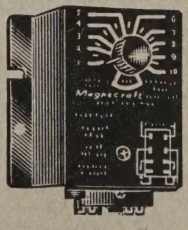
211M

112

112M


113C

218 Screw Terminals


218 Solder Terminals

CLASS 211CP SOLID STATE PLUG-IN TIME DELAY RELAYS

Combines solid state circuitry for timing function, with Class 88 electromechanical relay for DPDT 10-amp output switching. Nylon dust cover, plug-in mounting. DC models are reverse polarity protected. Transient protection for twice the nominal input voltage, for a period not to exceed 8 msec. **Contacts:** DPDT, rated 10 amps. **Temperature Range:** Operate, −10° to +55° C; storage, −55° to +85° C. **Timing Repeatability:** ±5% of setting at nominal voltage at 25° C. **Size:** 1¾" x 2⅜" x 2⅞" h. (not including knob). **Plug:** Operate types, 8-pin; release types, 11-pin.

For Delay On Operate				For Delay On Release			
Magnecraft Number	Coil V*	Delay Secs	Net Ea., Lots	Magnecraft Number	Coil V*	Delay Secs	Net Ea., Lots
W211ACPSOX-18	120 AC	.2–1	1–9 . . .	W211ACPSRX-14	120 AC	.2–1	1–9 . . .
W211ACPSOX-5		1–10	$22.85	W211ACPSRX-5		1–10	$27.97
W211ACPSOX-7		1–180	10–24 . .	W211ACPSRX-7		1–180	10–24 . .
W211ACPSOX-8		2–300	$21.70	W211ACPSRX-8		2–300	$26.58
W211CPSOX-10	24 DC	.2–1	25–49 . . .	W211CPSRX-9	24 DC	.2–1	25–49 . . .
W211CPSOX-1		1–10	$22.85	W211CPSRX-1		1–10	$27.97
W211CPSOX-3		1–180	50–99* . .	W211CPSRX-3		1–180	50–99* . .
W211CPSOX-4		2–300	$21.70	W211CPSRX-4		2–300	$26.58

CLASS 213CP PRECISION SOLID STATE TIME DELAY RELAYS

Immune to false operation. Adjustable to 300 seconds. ±1% repeatability. Input voltage, 120 VAC. 10 amp DPDT output switching. Calibrated dial. Fast reset time. Transient protection against 1000 volts. Available for AC operation. Operate delay; release delay. Molded plastic enclosure for plug-in. Size, 1¾" x 2⅜" x 2⅞" h.

Magnecraft Number	Time Delay, Secs	Mode of Operation	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249*
W213ACPSOX-7	1–10	Slow Operate	$49.24	$46.78	$44.32	$39.39	$36.93
W213ACPSOX-9	1–180	Slow Operate	49.24	46.78	44.32	39.39	36.93
W213ACPSOX-10	2–300	Slow Operate	49.24	46.78	44.32	39.39	36.93
W213ACPSRX-4	1–10	Slow Release	58.89	55.95	53.00	47.11	44.17
W213ACPSRX-6	1–180	Slow Release	58.89	55.95	53.00	47.11	44.17
W213ACPSRX-7	2–300	Slow Release	58.89	55.95	53.00	47.11	44.17

CLASS 211M SOLID STATE TIME DELAY RELAYS, DPDT, 10 AMP

AC, DC operation. Screw type terminals. Transient and polarity protection. 2% repeatability. Contact rated, 10 amps at 28 VDC or 115 VAC, DPDT. Four adjustable time ranges. Operate or release delay. Reset time, 100 ms average. Size, 4½" x 1½" x 4½".

TIME DELAY ON OPERATE

Magnecraft No. 120 VAC	Magnecraft No. 24 VDC	Timing, Secs	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249*
W211MASOX-1	W211MSOX-1	.2–1	$32.01	$30.41	$28.82	$25.62	$24.01
W211MASOX-2	W211MSOX-2	1.0–10	32.01	30.41	28.82	25.62	24.01
W211MASOX-3	W211MSOX-3	1.0–180	32.01	30.41	28.82	25.62	24.01
W211MASOX-4	W211MSOX-4	2.0–300	32.01	30.41	28.82	25.62	24.01

TIME DELAY ON RELEASE

W211MASRX-1	W211MSRX-1	.2–1	$37.50	$35.63	$33.76	$30.00	$28.13
W211MASRX-2	W211MSRX-2	1.0–10	37.50	35.63	33.76	30.00	28.13
W211MASRX-3	W211MSRX-3	1.0–180	37.50	35.63	33.76	30.00	28.13
W211MASRX-4	W211MSRX-4	2.0–300	37.50	35.63	33.76	30.00	28.13

CLASS 112 AIR DASHPOT TIME DELAY RELAYS

Electrically actuated, with rugged enclosure and few moving parts. Solenoid assembly added to air dashpot/snap switch combination initiates time switching function. Mechanical timing function unaffected by voltage variations. Time delay adjustable, 1–150 seconds, with knob or capped Allen screw. Time repeat accuracy, ±10%. Release delay without standby power. DPDT contacts rated 10 amps. Enclosure has grommet for feed-thru wires (internally wired by user to .187" quick-connect terminals). Mounting by two ¾6" dia. holes on 3" centers. Size, 1¾" x 3¾6" x 4¾6". Weight, 20 oz.

Class 112M (W112MASOX-1 to W112MASRX-2): Same as above, but in molded, high-impact plastic enclosure with built-in screw type terminals. Flange mounting, with six ¾6" holes spaced ½" on 4⅛" centers. Factory wired. Size, 1½" x 4½" x 4½". Wt., 14 oz.

Magnecraft Number	"Slow" Function	Coil* Volts	Coil* Ohms	Adjustment	Net Each, Lots of 1-9	10-24	25-49	50-99*
W112ACSOX-4	Operate	120 VAC	.....	Knob	$49.17	$46.71	$44.26	$39.33
W112CSOX-3	Operate	24 VDC	80	Knob	49.17	46.71	44.26	39.33
W112ACSRX-4	Release	120 VAC	.....	Knob	49.17	46.71	44.26	39.33
W112CSRX-3	Release	24 VDC	80	Knob	49.17	46.71	44.26	39.33
W112MASOX-1	Operate	120 VAC	.....	Knob	54.88	52.14	49.39	43.91
W112MASOX-2	Operate	120 VAC	.....	Screw	54.88	52.14	49.39	43.91
W112MSOX-2	Operate	24 VDC	80	Knob	54.88	52.14	49.39	43.91
W112MSOX-3	Operate	24 VDC	80	Screw	54.88	52.14	49.39	43.91
W112MASRX-1	Release	120 VAC	.....	Knob	54.88	52.14	49.39	43.91
W112MASRX-2	Release	120 VAC	.....	Screw	54.88	52.14	49.39	43.91
W112MSRX-1	Release	24 VDC	80	Knob	54.88	52.14	49.39	43.91
W112MSRX-2	Release	24 VDC	80	Screw	54.88	52.14	49.39	43.91

CLASS 113C MANUALLY ACTIVATED TIME DELAY SWITCHES

Consists of Class 113 air dashpot time delay switch built with a non-aging, low-friction graphite, precision ground tempered glass air dashpot timer. Pushing the button instantly transfers the SPDT switch; releasing initiates the timing cycle. At the end of timing period, snap contacts are instantly reset. Knob-adjustable timing range, 1–180 seconds. Metal parts are corrosion-resistant. SPDT contacts rated 10 amps up to 32 VDC or 250 VAC resistive. Size, 2⅛6" x 1⅝2" x 3⅝". Mounts in single panel hole. Wt., 8 oz

Magnecraft Number	Contact	Timing Range	Button Dia.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249*
W113CX-1	SPDT	1–180 seconds	½"	$36.57	$34.74	$32.92	$29.26	$27.43

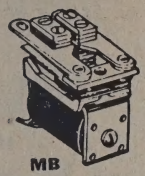
CLASS 218 SOLID STATE PANEL MOUNTED TIME DELAY RELAYS

Calibrated dial. Screw terminal, or solder terminal types. Contacts, 10 amp SPDT, screw terminal type; 10 amp DPDT, solder terminal type. Input, 120 VAC. ±2% repeatability under fixed conditions; ±10% under voltage and temperature extremes. Reset, recycle time, 100 ms. Three timing ranges. Time delay on operate. Size, 3⅝6" w. x 2½" d. x 3⅛6" h.

Screw Terminals—10 A—SPDT Magnecraft Number	Net Each, Lots of 1-9	10-24	25-49*	Timing Delay, Secs	Solder Terminals—10A DPDT Magnecraft Number	Net Each, Lots of 1-9	10-24	25-49*
W218ACSOSX-2	$22.61	$21.47	$20.34	1–10	W218ACSOX-9	$19.65	$18.67	$17.68
W218ACSOSX-4	22.61	21.47	20.34	1–180	W218ACSOX-10	19.65	18.67	17.68
W218ACSOSX-5	22.61	21.47	20.34	2–300	W218ACSOX-11	19.65	18.67	17.68

***COIL DATA:** Voltage shown is nominal. Pull-in at 80% of nominal or less for DC relays; 85% of nominal for AC relays at 25° C. Resistance shown is ±10% at 25° C.

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST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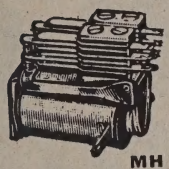
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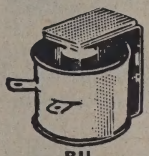
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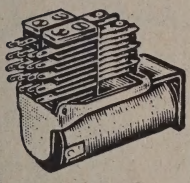
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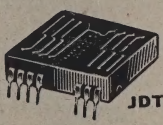

JDT21DC1

JDT15DB1

TELEPHONE TYPE RELAYS

MB Series: Miniature DC contactor for very high current uses. Heavy brass arms with silver contacts rated 60 amps; solder terminals. Four 3-48 mtg. holes on ⅜″ centers. Size, 1²¹⁄₃₂″ x ⅞″ x 1⁷⁄₁₆″. Wt., 2 oz.

MH Series: Fast acting, long life miniature. Gold-flashed silver contacts rated 3 amps for MH11L and LM; 5 amps for all others. Hooked solder terminals on sealed models. Mounting: Open, MH11L, 6-32 stud 1½₂″ long plus locating boss; other open models have four 3-48 holes on ⅝″ centers. Sealed, AMR, -LM and -DM, three 6-32 NC-2 studs on 1¼″ x ½″ ctrs.; -DD, -D, three 6-32 studs on 1¹⁄₁₆″ x ¹⁵⁄₁₆″ ctrs. Size, 1²¹⁄₃₂″ x 1¹⁷⁄₃₂″ x ¾″. Weight: Open, 2½ oz. max.; sealed, 5 oz. maximum.

ML Series: Small relay with excellent sensitivity and outstanding switching capability for transistorized networks, etc. Single contact arms have gold-flashed silver contacts rated 3 amps for 100,000 operations. Pierced solder terminals. Four 3-48 mtg. holes on ⅜″ centers. Size, ¾″ x 1²¹⁄₃₂″ x 1¹³⁄₃₂″. Weight, 2½ oz.

MB, MH AND ML RELAYS

P & B Number*	Contacts	Coil Voltage or Current	Net Each, Lots of* 1-24	25-50	51-99	100-249
MB3D	SPST-NO-DM	6 VDC	$10.55	$10.02	$ 9.50	$ 7.91
MB3D	SPST-NO-DM	12 or 24 VDC	10.55	10.02	9.50	7.91
MB3D	SPST-NO-DM	110 VDC	11.30	10.74	10.17	8.48
MH11L	DPDT	4.5 mA; 10K ohms resis.	11.30	10.74	10.17	8.48
MH11LM*	DPDT	4.5 mA; 10K ohms resis.	13.95	13.25	12.56	10.46
MH17D	4PDT	6, 12 or 24 VDC	12.20	11.59	10.98	9.15
MH17DM*	4PDT	12 or 24 VDC	24.10	22.90	21.69	18.08
MH17AMR*	4PDT	120 VAC	29.05	27.60	26.15	21.79
MH23D	6PDT	6, 12 or 24 VDC	16.80	15.96	15.12	12.60
MH23D	6PDT	110 VDC	16.80	15.96	15.12	12.60
MH23DD*	6PDT	12 or 24 VDC	32.15	30.54	28.94	24.11
ML11D	DPDT	4.0 mA; 2500 ohms, resis.	13.65	12.97	12.29	10.24
ML11D	DPDT	2.83 mA; 5K ohms, resis.	13.70	13.02	12.33	10.28
ML11D	DPDT	2.0 mA; 10K ohms, resis.	15.05	14.30	13.55	11.29
ML17D	4PDT	5.65 mA; 2500 ohms, resis.	15.65	14.87	14.09	11.74
ML17D	4PDT	4.0 mA; 5K ohms, resis.	16.70	15.87	15.03	12.53
ML17D	4PDT	2.83 mA; 10K ohms, resis.	18.05	17.15	16.25	13.54
ML23D	6PDT	6.93 mA; 2500 ohms, resis.	18.55	17.62	16.70	13.91

*Sealed relay. **Specify coil voltage or resistance when ordering.**

EOT SOLID STATE RELAYS

Designed for chassis mounting with a universal 4 to 32 VDC input controls a 120 VAC load. Features zero voltage turn on and zero current turn off. Size: 2.64″ x 1.52″ x 0.00″. Weight: 4.5 ozs.

P & B No.	DC	Input Power	Contact Arrang.	Amp*	Net Each, Lots of 1-9	10-24	25-49	50-99
EOT1DB22	3–32 V	60–480 mW	SPST-NO	4	$16.20	$15.39	$14.58	$12.96
EOT1DB42	3–32 V	60–480 mW	SPST-NO	8	20.50	19.48	18.45	16.40
EOT1DB52	3–32 V	60–480 mW	SPST-NO	16	23.65	22.47	21.29	18.92
EOT1DB72	3–32 V	60–480 mW	SPST-NO	20	27.80	26.41	25.02	22.24

*With factory-recommended heat sink.

JDO SOLID STATE RELAYS

Low profile relay designed for printed circuit board mounting on 0.5″ centers. Features zero voltage turn on and zero current turn off. Size: 1.6″ x 1.25″ x .370″. Weight is approx. 0.6 oz.

JDO1DE22	5 V	35 mW	SPST-NO	1.7	$17.00	$16.15	$15.30	$13.60
JDO1DE22	6 V	42 mW	SPST-NO	1.7	17.00	16.15	15.30	13.60
JDO1DE22	12 V	85 mW	SPST-NO	1.7	17.00	16.15	15.30	13.60
JDO1DE22	24 V	170 mW	SPST-NO	1.7	17.00	16.15	15.30	13.60

BU SERIES BUZZER

AC operated coil with a spring steel armature buzzes when coil is energized. Used extensively in test equipment, labs or wherever a small, lightweight dependable buzzer is required. No. 6-32 tapped core mounting. UL Component Recognized. Size, 1.032″ x 1.375″ x 1.032″. Weight, 1⅝ oz.

P & B No.*	Coil Voltages	Net Each, Lots of* 1-24	25-50	51-99	100-249
BU	6, 12, 24 or 120 VAC	$2.45	$2.33	$2.21	$1.84
BU	240 VAC	3.00	2.85	2.70	2.25

Specify coil voltage when ordering.

JDT SERIES DUAL THIN-LINE REED RELAYS

Low profile ideal for high density packaging applications; for multiple-function switching. Hermetically sealed dry reed switches rated 10 watts max. resistive; continuous duty DC operation. Encapsulated in epoxy; dual inline terminals are on .100″ centers. Operate time, 3.5 msec max. including bounce; release time, 3.5 msec max. Coil resistance at ±10% at 25° C.

P & B Number*	Poles	Coil VDC	Coil Resistance, Ohms	Coil Power, mW	Max. Dimensions, Inches W. x D. x H.	Net Each, Lots of* 1-9	10-24	25-99	100-249
JDT7DA1	2 "A"	6	115	310	1.250 x .600 x .275	$ 7.50	$ 5.60	$4.76	$4.31
JDT7DA1	2 "A"	12	460	310	1.250 x .600 x .275	7.50	5.60	4.76	4.31
JDT7DA1	2 "A"	24	1840	310	1.250 x .600 x .275	8.05	6.01	5.11	4.63
JDT15DB1	4 "A"	6	115	310	1.250 x .800 x .275	9.70	7.24	6.16	5.58
JDT15DB1	4 "A"	12	460	310	1.250 x .800 x .275	9.70	7.24	6.16	5.58
JDT15DB1	4 "A"	24	1840	310	1.250 x .800 x .275	10.25	7.65	6.51	5.89
JDT21DC1	6 "A"	6	100	360	1.250 x 1.100 x .275	13.15	9.81	8.35	7.56
JDT21DC1	6 "A"	12	400	360	1.250 x 1.100 x .275	13.15	9.81	8.35	7.56
JDT21DC1	6 "A"	24	1600	360	1.250 x 1.100 x .275	13.40	10.00	8.51	7.71
JDT27DD1	8 "A"	6	60	600	1.250 x 1.300 x .275	15.35	11.45	9.75	8.83
JDT27DD1	8 "A"	12	240	600	1.250 x 1.300 x .275	15.35	11.45	9.75	8.83
JDT27DD1	8 "A"	24	960	600	1.250 x 1.300 x .275	16.40	12.23	10.41	9.43

Specify coil voltage when ordering.

★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

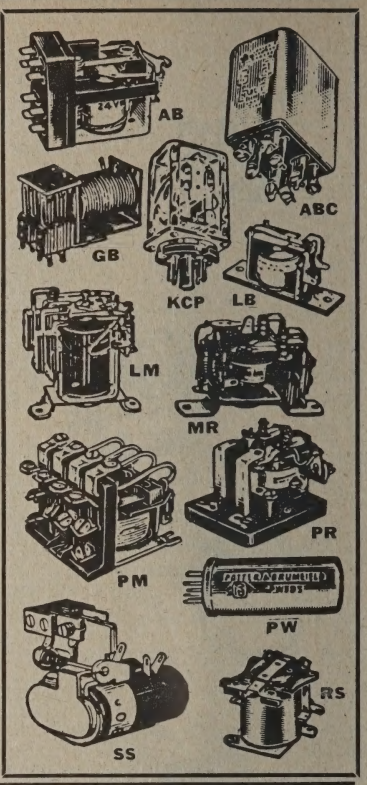
AMF | POTTER & BRUMFIELD Relays

SENSITIVE RELAYS

PW Series: Precision, lightweight, hermetically sealed relay for aircraft, missile applications. Withstand 10G vibration to 500 Hz. Rated 2 amps. Sensitivity, 180 mW for voltage actuated, 40 mW for current actuated models. Standard 7-pin miniature tube base mounting. Size, $1^{11}/_{16}$" x .765" dia. Weight, 1 oz.

RS Series: Small, low cost, sensitive relay for radio-sonde, light dimmer and model uses. Voltage and current actuated (60 mW sensitivity) models. Two 4-40 mtg. holes on ¾" x ⅝" diagonal centers. Bar palladium contacts rated 2 amps. Size, 1" x $1^{11}/_{64}$" x $^{11}/_{16}$". Weight, 1½ oz.

SS Series: Ultra-sensitive, precision relay has dual series-connected coils with balanced armature on needle-point bearings for low energy circuits. May be used as a differential relay by connecting the two coils in separate circuits. Sensitivity 10 mW. Silver contacts rated 2 amps. Two 6-32 mtg. holes on $^{31}/_{64}$" centers. Size, $1^{1}/_{16}$" x 1¾" x $1^{11}/_{16}$". Weight, 3½ oz.



P & B Number*	Contacts	Coil Voltages or Current	Net Each, Lots of* 1-24	25-50	51-99	100-249
PW5DS	SPDT	6, 12 or 24 VDC	$17.75	$16.86	$15.98	$13.31
PW5LS	SPDT	2.8 mA at 5,000 ohms	18.15	17.24	16.34	13.61
PW5LS	SPDT	2.0 mA at 10,000 ohms	19.00	18.05	17.10	14.25
RS5D	SPDT	6 VDC	6.20	5.89	5.58	4.65
RS5D	SPDT	12 VDC	6.20	5.89	5.58	4.65
RS5D	SPDT	5 mA at 2,500 ohms	6.25	5.94	5.63	4.69
RS5D	SPDT	3.5 mA at 5,000 ohms	6.55	6.22	5.90	4.91
RS5D	SPDT	2.5 mA at 10,000 ohms	7.10	6.75	6.39	5.33
SS5D	SPDT	1 mA at 10,000 ohms	26.30	24.99	23.67	19.73

*Specify coil voltage or resistance when ordering.

KCP Series: Low cost relay in clear polycarbonate case. Gold-flashed, silver contacts rated 2 amps. Sensitivity 125 mW for SP, 250 mW for DP and 375 mW for 3P models. Standard octal plug-in mount: 8-pin for KCP5 and KCP11; 11-pin for KCP14. Size, $1^{13}/_{32}$" x $1^{13}/_{32}$" x 2". Weight, 3 oz.

LB Series: Top performance, long life at low cost. Factory adjusted coil for minimum current. Silver contacts rated 5 amps. Sensitivity, 200 mW. Two 3/16" mtg. holes on $2^{7}/_{32}$" centers. Size, 1¼" x $2^{21}/_{32}$" x $1^{3}/_{8}$". Weight, 2 oz.

LM Series: Medium cost but high quality. Sensitivity 100 mW for SP, 200 mW for DP models. Tail spring adjusting screw for pull-in. Gold-flash silver contacts rated 5 amps. Two 6-32 mtg. holes on $1^{13}/_{16}$" centers. Size, $2^{3}/_{16}$" x $2^{9}/_{16}$" x 2¼". Weight, 5 oz.

P & B Number*	Contacts	Coil Resistance 2,500 Ohms Input mADC	Net Each, Lots of* 1-24	25-50	51-99	100-249	Coil Resistance 5,000 Ohms Input mADC	Net Each, Lots of* 1-24	25-50	51-99	100-249	Coil Resistance 10,000 Ohms Input mADC	Net Each, Lots of* 1-24	25-50	51-99	100-249
KCP5	SPDT	7.2	$ 8.15	$ 7.74	$7.34	$6.11	5.0	$ 8.25	$ 7.84	$7.43	$6.19	3.6	$ 8.75	$ 8.31	$ 7.88	$6.56
KCP11	DPDT	10.0	8.65	8.22	7.79	6.49	7.2	8.75	8.31	7.88	6.56	5.0	9.35	8.88	8.42	7.01
KCP14	3PDT	12.3	10.65	10.12	9.59	7.99	8.7	10.80	10.26	9.72	8.10	6.1	11.35	10.78	10.22	8.51
LB5	SPDT	9.0	5.00	4.75	4.50	3.75	6.3	5.40	5.13	4.86	4.05	4.5	5.80	5.51	5.22	4.35
LM5	SPDT	6.3	7.25	6.89	6.53	5.44	4.5	7.35	6.98	6.62	5.51	3.2	8.20	7.79	7.38	6.15
LM11	DPDT	9.0	10.50	9.98	9.45	7.88	6.3	10.60	10.07	9.54	7.95	4.5	11.50	10.93	10.35	8.63

*Specify coil resistance when ordering.

POWER TYPE RELAYS

AB Series: For appliance and general purpose usage where rugged construction, long life and quiet operation are required. UL recognized and CSA listed. Silver contacts rated 10 amps. Two 8-32 mtg. holes on 1¼" ctrs. Size, $1^{5}/_{16}$" x 3" x $1^{13}/_{32}$". Weight, 5 oz.

ABC Series: Medium duty relay. With dust cover; terminals fit snap-on connectors or may be used in printed circuits using dip soldering; snap-on screw adapters are supplied. UL recognized and CSA listed. Silver contacts rated 10 amps. One 8-32 mtg. stud, ⅜" lg. and locating tab on 9/16" centers. Size, $1^{15}/_{32}$" x $2^{25}/_{32}$" x $2^{3}/_{32}$", less terminals. Weight, 7 oz.

MR Series: Medium duty relay handles small motors, transmitters, etc. Silver contacts rated 8 amps, except SPST-NO-DM models rated 10 amps. Two 9/32" dia. holes on 2¼" ctrs. for MR3 and MR11; on $2^{5}/_{8}$" ctrs. for MR5 and MR14. Size, $2^{31}/_{32}$" x 2" x $2^{3}/_{16}$". Weight, 4 oz.

PR Series: Heavy duty with industrial screw terminals. Carry UL (File #E22575) and CSA listing; PRA11AYA, UL Component Program recognition. Silver contacts rated 25 amps except 7AG and 11AG rated 30 amps. PRA11AYA has auxiliary snap-action switch with SPDT silver contacts rated 5 amps at 120 VAC; will not fit inside cover. Use only metal dust cover #35D013. Two .188" dia. mtg. holes on 1.875" ctrs. Size, 2.531" x 3.375" x 2.5". Wt., 11 oz. max.

PM Series: Compact, heavy duty 4PDT type for long, dependable polyphase and heavy switching use. Screw terminals staked to phenolic front section. Silver cadmium-oxide contacts rated 25 amps at 240 VAC, 50/60 Hz resistive; 1 hp per movable arm at 120 or 240 VAC, single phase. UL and CSA listed except 480 V. Front key-hole and 2 rear-channel slots for 8-32 screws on 2" x 2½" triangular ctrs. Size, $2^{21}/_{32}$" x $3^{23}/_{64}$" x $2^{23}/_{32}$". Weight, 14 oz.

See another P & B page for accessories.

★LARGER QUANTITY PRICES ON REQUEST

60-Hz AC RELAYS

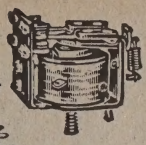
P & B Number*	Contacts	6, 12, 24 or 120 VAC Net Each, Lots of* 1-24	25-50	51-99	100-249	240 VAC Net Each, Lots of* 1-24	25-50	51-99	100-249
AB11AH†	DPDT	$ 8.15	$ 7.74	$ 7.34	$ 6.11	$ 8.70	$ 8.27	$ 7.83	$ 6.53
AB11AY†•	DPDT	7.85	7.46	7.07	5.89	8.40	7.98	7.56	6.30
ABC11AH†	DPDT	8.95	8.50	8.06	6.71	9.40	8.93	8.46	7.05
ABC11AY†•	DPDT	8.65	8.22	7.79	6.49	9.10	8.65	8.19	6.83
MR3A†•	SPST-NO-DM	6.55	6.22	5.90	4.91	.....	.....	.....	.....
MR5A	SPDT	5.85	5.56	5.27	4.39	6.55	6.22	5.90	4.91
MR11A	DPDT	7.85	7.46	7.07	5.98	8.55	8.12	7.70	6.41
MR14A	3PDT	10.30	9.79	9.27	7.73	11.00	10.45	9.90	8.25
PR1AYO*	SPST-NO	6.10	5.80	5.49	4.58	.....	.....	.....	.....
PR3AYO§	SPST-NO-DM	6.20	5.89	5.58	4.65	6.80	6.46	6.12	5.10
PR5AYO§	SPDT	6.45	6.13	5.81	4.84	7.10	6.75	6.39	5.33
PR7AGO#	DPST-NO	7.55	7.17	6.80	5.66	.....	.....	.....	.....
PR7AYO§	DPST-NO	7.20	6.84	6.48	5.40	7.80	7.41	7.02	5.85
PR11AGO#	DPDT	9.70	9.22	8.73	7.28	.....	.....	.....	.....
PRA11AYA•	DPDT-SPDT	12.95	12.30	11.66	9.71	13.60	12.92	12.24	10.20
PR11AYO§	DPDT	9.20	8.74	8.28	6.90	9.90	9.41	8.91	7.43
PR11AYO	DPDT 480 V	11.05	10.50	9.95	8.29	.....	.....	.....	.....
PM17AY	4PDT	18.40	17.48	16.56	13.80	18.50	17.58	16.65	13.88
PM17A	4PDT 480 V	19.80	18.81	17.82	14.85	.....	.....	.....	.....

DC RELAYS

P & B Number*	Contacts	6, 12 or 24 VDC Net Each, Lots of* 1-24	25-50	51-99	100-249	110 VDC Net Each, Lots of* 1-24	25-50	51-99	100-249
AB11DH‡	DPDT	$ 8.60	$ 8.17	$ 7.74	$ 6.45	$ 9.25	$ 8.79	$ 8.33	$ 6.94
AB11DY‡	DPDT	8.30	7.89	7.47	6.23	8.95	8.50	8.06	6.71
ABC11DH	DPDT	9.40	8.93	8.46	7.05	10.00	9.50	9.00	7.50
ABC11DY‡	DPDT	9.10	8.65	8.19	6.83	.....	.....	.....	.....
MR3D‡	SPST-NO-DM	6.65	6.32	5.99	4.99	.....	.....	.....	.....
MR5D	SPDT	5.75	5.46	5.18	4.31	6.65	6.32	5.99	4.99
MR11D	DPDT	7.80	7.41	7.02	5.85	8.65	8.22	7.79	6.49
MR14D‡	3PDT	10.20	9.69	9.18	7.65	11.05	10.50	9.95	8.29
PR3DYO	SPST-NO-DM	6.20	5.89	5.58	4.65	7.05	6.70	6.35	5.29
PR5DYO	SPDT	6.45	6.13	5.81	4.84	7.30	6.94	6.57	5.48
PR7DYO	DPST-NO	7.25	6.89	6.53	5.44	8.05	7.65	7.25	6.04
PR11DYO	DPDT	9.30	8.84	8.37	6.98	10.10	9.60	9.09	7.58
PM17DY	4PDT	15.85	15.06	14.27	11.89	17.30	16.44	15.57	12.98

*24 VAC and 120 VAC models only. †No 12 VAC model. ‡No 6 VDC model. §208 VAC also available; same price as 240 V models. #120 VAC model only. •No 6 VAC model.
*Specify coil voltage when ordering.

KB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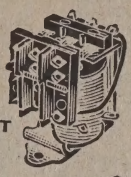
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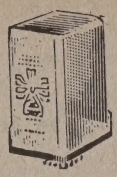
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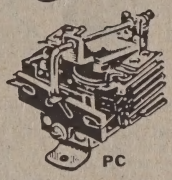
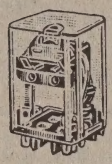

PC


KUL

P & B Number*	Contacts	Coil Voltages	Net Each, Lots of* 1-24	25-50	51-99	109-249
KB17AG	4PDT	6, 12, 24 or 120 VAC	$14.45	$13.73	$13.01	$10.84
KB17AG	4PDT	240 VAC	15.50	14.73	13.95	11.63
KB23AG	6PDT	24 or 120 VAC	17.45	16.58	15.71	13.09
KB17AY	4PDT	6, 12, 24 or 120 VAC	13.80	13.11	12.42	10.35
KB17AY	4PDT	240 VAC	15.40	14.63	13.86	11.55
KB23AY	6PDT	24 or 120 VAC	17.10	16.25	15.39	12.83
KB17D	4PDT	6, 12 or 24 VDC	13.40	12.73	12.06	10.05
KB17D	4PDT	110 VDC	14.00	13.30	12.60	10.50
KB23D	6PDT	24 VDC	16.55	15.72	14.90	12.41
KB17DG	4PDT	6, 12 or 24 VDC	13.70	13.02	12.33	10.28
KB17DG	4PDT	110 VDC	14.25	13.54	12.83	10.69
KB23DG	6PDT	24 VDC	16.95	16.10	15.26	12.71
KB23DG	6PDT	110 VDC	17.50	16.63	15.75	13.13
KBP17A	4PDT	120 VAC	22.65	21.52	20.39	16.99
KBP17AG	4PDT	120 VAC	22.95	21.80	20.66	17.21
KBP17D	4PDT	24 VDC	22.65	21.52	20.39	16.99
KBP17DG	4PDT	12 or 24 VDC	23.10	21.95	20.79	17.33
KBP20A	5PDT	120 VAC	26.15	24.84	23.54	19.61
KBP20AG	5PDT	120 VAC	26.45	25.13	23.81	19.84
KBP20DG	5PDT	12 or 24 VDC	26.20	24.89	23.58	19.65
KM5D	SPDT	6, 12 or 24 VDC	7.35	6.98	6.62	5.51
KM11D	DPDT	6, 12 or 24 VDC	8.65	8.22	7.79	6.49
KM14D	3PDT	6, 12 or 24 VDC	10.55	10.02	9.50	7.91
KT11A	DPDT	6 or 120 VAC	5.50	5.23	4.95	4.13
KT11D	DPDT	6 or 12 VDC	5.35	5.08	4.82	4.01
KUL5A15S	SPDT	120 VAC	8.20	7.79	7.38	6.15
KUL5D15S	SPDT	24 VDC	6.45	6.13	5.81	4.84
KUL11A15S	DPDT	12, 24 or 120 VAC*	9.15	8.69	8.24	6.86
KUL11D15S	DPDT	12 or 24 VDC	7.15	6.79	6.44	5.36
PC11A	DPDT	6, 12, 24 or 120 VAC	8.95	8.50	8.06	6.71
PC17A	4PDT	24 or 120 VAC	15.70	14.92	14.13	11.78
PC11D	DPDT	6, 12 or 24 VDC	8.50	8.08	7.65	6.38
PC17D	4PDT	24 VDC	14.50	13.78	13.05	10.88

*Diodes included inside clear polycarbonate dust cover. *Specify coil voltage when ordering.*

SPECIAL PURPOSE RELAYS

KB (Open) and KBP (Enclosed) Series: Latching relay with release and trip coils at same voltage. One sets the latch and the other releases. Operates on momentary impulse to either coil. Silver contacts are rated 5 amps; suffix "G" indicates silver-cadmium contacts on movables rated at 10 amps. AC open relays with 5 amp contacts are recognized under UL Component Program and CSA listed. Type **KB** are open relays with two .156" dia. holes on 1.375" centers. Size, 1.812" x 3.22" x 2.13". Wt., 6 oz. **Type KBP** enclosed in polypropylene dust cover with 20-pin octal-type plugs for socket mounting. UL component recognition does not apply. Size, 1.781" x 2.406" x 3.56". Weight, 4 oz.

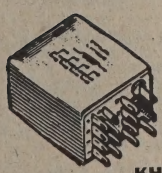
KM Series: Subminiature relay for use where size and weight are critical factors. Silver contacts rated 2 amps. Solder lug terminals. Has 2-56 tapped hole and locating half-punch for mtg. Size, 1 1/16" x 1 1/8" x 53/64". Weight, .58 oz.

KT Series: Antenna switching relay has glass base insulation for minimum RF loss to switch 300-ohm line. Gold-flashed silver contacts rated 5 amps. Single 6-32 mtg. stud. Size, 1 15/16" x 1 5/16" x 1 1/16". Wt., 1½ oz.

KUL Series: Small magnetic latching relay; continuous duty for applications requiring memory stability such as machine tools, process controls, etc. Recognized under UL Component Program and CSA approved. Silver cadmium contacts rated 10 amps at 28 VDC resis. or 120 VAC, 80% PF. Use KU sockets for mtg. Size, 1.406" x 1.531" x 2.156". Weight, 3.4 oz.

PC Series: Single coil impulse latching relay for on-off and current reversal switching on alternate pulses. Gold-flashed silver cadmium oxide contacts rated 5.0 amps. Two 5/32" mtg. holes on 2 3/8" centers. Size, 2 3/64" x 2 1/16" x 2 31/32". Weight, 5 oz.

GENERAL PURPOSE TELEPHONE RELAYS


KHP

KHS

KHU

P & B Number*	Coil Voltages	Net Each, Lots of* 1-24	25-50	51-99	100-249
KHP17A11	6, 12, 24 VAC	$ 6.50	$ 6.18	$ 5.85	$ 4.88
KHP17A11	120 VAC	7.05	6.70	6.35	5.29
KHP17A12	120 VAC	7.25	6.89	6.53	5.44
KHP17A13	120 VAC	18.20	17.29	16.38	13.65
KHP17D11	6, 12, 24 VDC	5.90	5.61	5.31	4.43
KHP17D11	48 VDC	6.15	5.84	5.54	4.61
KHP17D11	90, 110 VDC	6.90	6.56	6.21	5.18
KHP17D12	12, 24 VDC	6.10	5.80	5.49	4.58
KHP17D12	48 VDC	6.30	5.99	5.67	4.73
KHP17D12	110 VDC	7.05	6.70	6.35	5.29
KHP17D13	24 VDC	17.05	16.20	15.35	12.79
KHP17D13	48 VDC	17.25	16.39	15.53	12.94
KHP17D16	12, 24 VDC	8.40	7.98	7.56	6.30
KHS17A11	6, 12, 24 VAC	11.60	11.02	10.44	8.70
KHS17A11	120 VAC	11.75	11.16	10.58	8.81
KHS17A12	120 VAC	11.80	11.21	10.62	8.85
KHS17D11	6, 12, 24 VDC	19.75	18.76	17.78	14.81
KHS17D11	110 VDC	10.40	9.88	9.36	7.80
KHS17D12	24 VDC	11.55	10.97	10.40	8.66
KHS17D13	24 VDC	10.40	9.88	9.36	7 80
KHU17A11	6, 12, 24 VAC	18.40	17.48	16.56	13.80
KHU17A11	120 VAC	6.50	6.18	5.85	4.88
KHU17D11	6, 12, 24 VDC	7.05	6.70	6.35	5.29
KHU17D11	48 VDC	5.90	5.61	5.31	4.43
KHU17D11	90, 110 VDC	6.15	5.84	5.54	4.61
KHU17A12	120 VAC	6.90	6.56	6.21	5.18
KHU17D12	24 VDC	6.10	5.80	5.49	4.58
KHU17D12	110 VDC	7.05	6.70	6.35	5.29
KHU17D16	12, 24 VDC	8.45	8.03	7.61	6.34

SERIES KHP, KHS (SEALED) AND KHU (ENCLOSED) TYPES
Small, rugged 4PDT, AC and DC relays. KHU, clear polycarbonate and KHP has nylon dust cover; KHS is hermetically sealed in metal enclosure. For data processing and computer applications. Contacts available: Suffix **11** denotes gold-flashed silver rated 3 amps, 30 VDC or 120 VAC, resistive; suffix **12** denotes silver-cadmium oxide rated 3 amps; suffix **13** gold alloy contacts for low level to 1.0 amp applications; suffix **16** gold overlay on silver, bifurcated contacts rated 1 amp at 30 VDC, resistive, or 120 VAC. Mount by solder terminals and 3-48 stud 5/16" lg. Adaptable to sockets (listed on another page). Type KHU is recognized under UL Component Program. KHS relays should not have frames grounded without consulting P & B.

See another P & B page for accessories.

★LARGER QUANTITY PRICES ON REQUEST

*Specify coil voltage when ordering.

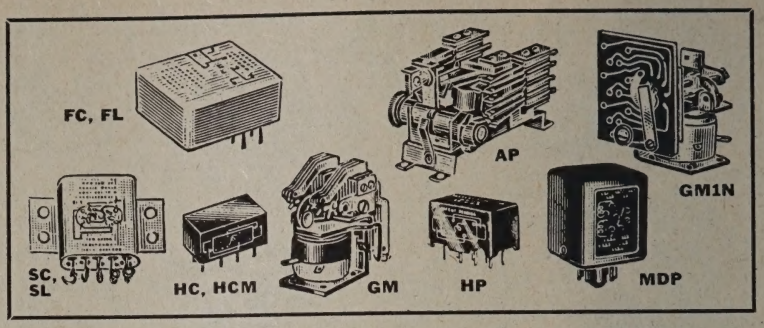
HIGH-RELIABILITY MINIATURE RELAYS

Temperature Range, −65° C to +125° C.

FC Series: Conventional, miniature relay lies flat on printed circuit board. Takes 150G shock, 400G linear acceleration, and 30G vibration to 2000 Hz. Hermetically welded; bifurcated contacts. Plug-in terminals on 0.2″ grid. Meets MIL-R-5757, and also MSFC-SPEC-339. Size, 1.1″ x .925″ x .485″ h. Contacts, 3 amps. Weight, .75 oz.

FL Series: Dual coil, miniature latching type. Same as above except in operation. Each coil pulses alternately (per polarity), or from a reversing (polarized) source connecting the coils in series. Stays latched without coil power to reduce drain.

SC Series: Miniature permanent magnet relay has high shock and vibration resistance. Features single coil action and conforms to standard min. coil operation except polarized connections because of magnetic circuit. Positive terminal marked with red dot. Contacts rated at 2 amps. Size, .795″ x .359″ x 1.1″. Mounting: —D, plug-in terminals for printed circuit or receptacle; —DA shoulder flanges with two .104″ x .136″ holes on 1.062″ ctrs.; —DB, welded bracket with four .125″ holes on 1.062″ x .281″ ctrs.; —DC, two 4-40 NC-2A threaded studs on .488″ x .220″ diagonal ctrs.; —DD, plain case. All except —D have hook-end solder terminal headers. SCG11D has plug-in terminals on .2″ grid. Wt., ¾ oz.



SL Series: Dual coil, miniature magnetic latching relay for low power, high shock and vibration resistance. Requires connections to both coils; may be connected in series for polar operation, reverse polarity to reset. Operates on 1 watt, 3 msec pulse to either coil. Size, .795″ x .359″ x 1.1″. Mtg. type and dimensions same as SC Series. Contacts rated at 2 amps. Weight, 2 oz.

HC Series: Miniature, non-polarized, non-latching relay hermetically welded in half-size crystal case. High-torque motor structure and bifurcated, gold-plated silver DPDT contacts offer positive performance in low-level applications. Contacts rated dry circuit to 2 amps at 28 VDC resistive. Meets or exceeds applicable sections of MIL-R-5757, and complies with MSFC-SPEC-339. HC11D has plug-in, plain case; HC11DA has hook-end solder terminals and shoulder brackets; HC11DB has hook-end solder terminals and flat mounting plate with two holes. Size (plain case), 0.8″ x 0.4″ sq., seated. Wt., ½ oz.

HCM Series: Military version of HC Series. Meets or exceeds appropriate sections of MIL-R-5757. Designed for hostile environments found in aircraft applications and for ground support equipment. Straight pins or hook solder terminals. Wt., ½ oz. without bracket.

HP Series: Non-polarized, non-latching half-size relay. Same structure, contact material as HC Series but enclosed in high impact dust cover. Terminals on .200″ grid for plug-in or PC board. Ideal for TV cameras, desk-top computers, dictating, etc. DPDT contacts rated low level to 2 amps. Continuous duty coils rated 5 msec operate, 3 msec release max. Size, .49″ x .88″ x .48″ max. Wt., 0.3 oz.

HPS Series: Hermetically sealed version of HP; uses standard HP socket. For reliable performance in logic circuit applications or where prolonged submersion of PC boards in cleaning solvents may be required. Size, .810″ x .410″ x .410″. Wt., ¼ oz.

P & B Number*	Contacts	Coil Voltages	Net Each, Lots of* 1-24	25-50	51-99	100-249
AP11A	DPDT	6, 12, 24 or 120 VAC	$16.20	$15.39	$14.58	$12.15
AP11A	DPDT	240 VAC	16.30	15.49	14.67	12.23
AP17A	4PDT	24 or 120 VAC	22.00	20.90	19.80	16.50
AP11D	DPDT	6, 12 or 24 VDC	16.05	15.25	14.45	12.04
AP11D	DPDT	110 VDC	16.45	15.63	14.81	12.34
AP17D	4PDT	12 or 24 VDC	21.10	20.05	18.99	15.83
AP17D	4PDT	110 VDC	21.50	20.43	19.35	16.13
FC11D	DPDT	6, 12 or 24 VDC	30.25	28.74	27.23	22.69
FL11D	DPDT	6, 12 or 24 VDC	30.70	29.17	27.63	23.03
SC11D	DPDT	6, 12 or 24 VDC	30.65	29.12	27.59	22.99
SC11DA	DPDT	12 or 24 VDC	31.75	30.16	28.58	23.81
SC11DB	DPDT	6, 12 or 24 VDC	31.40	29.83	28.26	23.55
SC11DC	DPDT	24 VDC	31.65	30.07	28.49	23.74
SC11DD	DPDT	24 VDC	30.90	29.36	27.81	23.18
SCG11D	DPDT	24 VDC	35.30	33.54	31.77	26.48
SC7141	DPDT	26.5 VDC*	36.40	34.58	32.76	27.30
SL11D	DPDT	12 or 24 VDC	32.10	30.50	28.89	24.08
SL11DA	DPDT	24 VDC	33.05	31.40	29.75	24.79
SL11DB	DPDT	6, 12 or 24 VDC	32.70	31.07	29.43	24.53
SL11DC	DPDT	24 VDC	32.95	31.30	29.66	24.71
SLG11D	DPDT	24 VDC	33.30	31.64	29.97	24.98
GM11A	DPDT	24 or 120 VAC	15.60	14.82	14.04	11.70
GM11AL11	DPDT/DPDT	120 VAC	19.50	18.53	17.55	14.63
GM11D	DPDT	12 or 24 VDC	14.80	14.06	13.32	11.10
GM11D	DPDT	110 VDC	15.00	14.25	13.50	11.25
GM1N10A	SP-10 pos.	120 VAC	13.85	13.16	12.47	10.39
GM1N12A	SP-12 pos.	120 VAC	13.25	12.59	11.93	9.94
GM1N10D	SP-10 pos.	24 VDC	13.80	13.11	12.42	10.35
GM1N12D	SP-12 pos.	24 VDC	13.00	12.35	11.70	9.75
HC11D	DPDT	24 VDC	29.75	28.26	26.78	22.31
HC11DA	DPDT	24 VDC	30.85	29.31	27.77	23.14
HC11DB	DPDT	24 VDC	30.85	29.31	27.77	23.14
HCM11D	DPDT	24 VDC	22.60	21.47	20.34	16.95
HCM11DA	DPDT	24 VDC	23.60	22.42	21.24	17.70
HCM11DB	DPDT	24 VDC	23.60	22.42	21.24	17.70
HP11D	DPDT	6, 12 or 24 VDC	9.80	9.31	8.82	7.35
HP11D	DPDT	48 VDC	10.45	9.93	9.41	7.84
HPS11D	DPDT	12 or 24 VDC	11.85	11.26	10.67	8.89

*MIL-R-5757/10C-141 or RY4NA3B3L01. **Specify coil voltage when ordering.

SPECIAL PURPOSE RELAYS

AP Series: Ratchet, impulse relay for reliability in on-off or reversing action for alternate operations of the control lead. Positive ratchet at all speeds on impulses as short as 60 milliseconds. Intermittent operation only. Silver contacts rated 5 amps. Three ¼″ mtg. holes on 3⅜″ x ⅛″ triangular ctrs.; 2⅛″ x 3¾″ x 2¼″; 7 oz.

GM Series: Versatile impulse/sequencing relay for single-coil latching applications. The 2 Form C contact arrangement is switched alternately by cams. Positive switching is by indirect action during drop-out of the armature. Can also be furnished with additional 2 Form C auxiliary contacts, suffix "L", operated directly by the armature. Contacts rated at 3 amps. Available with AC or DC coils. AC version operates on a 50% coil duty cycle (5 min. max.). Mounting: 8-32 tapped core with a locating boss. Size, 1.437″ x 2.03″ x 2.07″ max. Wt., with aux contacts, 4¾ oz.; without, 4 oz.

GM1N Series: Relays employing basic structure of GM Series with unidirectional printed circuit boards in choice of 10 or 12 steps. Board is attached to ratchet shaft extension. Movable contact arm advances one position each time armature drops out. Contacts rated at .25 amp. Size, 1.875″ x 2″ x 2.312″. Wt., approx. 4 oz.

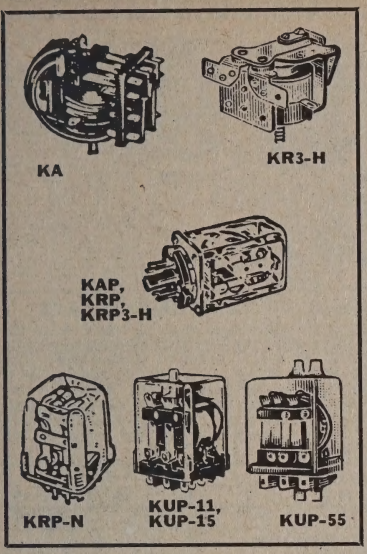
See another P & B page for accessories

T10 SERIES PC RELAY

Printed circuit board mounting on 0.5″ centers. Has permissive-made contacts for low bounce and long life. Operate and release times are 15ms, including bounce. Size: 1.52″ x 1.46″ x .375″ height. Weight: 1 oz. approx.

P & B No.	Coils Input	Coils Res.	Contacts Power	Contacts Arrang.	Contacts Amp*	Net Each, Lots of 1-9	10-49	50-99
T10-E2-Y4	6 VDC	48	750 mW	4PDT	3	$4.50	$4.05	$3.60
T10-E2-Y4	12 VDC	190	760 mW	4PDT	3	4.50	4.05	3.60
T10-E2-Y4	24 VDC	769	750 mW	4PDT	3	4.50	4.05	3.60
T10-E2-Y4	48 VDC	3050	750 mW	4PDT	3	5.10	4.59	4.08

*At 30 VDC, resistive.



KA and KAP Series: Small, low cost, highly efficient relay for light power loads. All KA and KAP relays with "Y" suffix bear CSA listing and carry UL Component Recognition (File No. E22575). Continuous duty. Mechanical life 10 million operations. Contacts: Suffix **Y,** movable gold-flashed silver; stationary, silver overlay; rated 5 amps. Suffix **G,** movable contacts silver-cadmium-oxide rated 10 amps. Size and Mounting: KA, 1 15/32" x 1 1/16" x 1 27/32" with 6-32 thd. stud and locating tab on 7/16" ctrs.; wt., 2 oz. KAP, enclosed in clear polycarbonate dust cover 1 17/32" x 1 7/16" x 2 9/32" with 8- or 11-pin plug terminals; wt., 3 oz.

KR3-H Series: Small size, heavy-duty relay. Open only, SPST-NO-DM contacts. Movable carrier has twin silver-cadmium-oxide contacts rated 20 A, 120 VAC 60 Hz resis. or 28 VDC; 1 hp at 120/240 V 60 Hz. Terminals: 1/4" quick connect or solder for contacts; coil, solder only. One 6-32 mtg. stud on 7/16" ctr. Size, 1 39/64" x 1 43/64" x 1 33/64"; seated, 1 7/32" h. Weight, 2 oz.

KRP3-H Series: Same electrical specifications as KR3-H, but enclosed in clear, polycarbonate dust cover with octal plug-in base. Size, 1 17/32" x 1 7/16" x 2 9/32" h. above plug. Weight, approx. 3 oz.

KRP Series: Multi-contact arrangements in clear polycarbonate dust cover. Mounts by standard octal 8-pin plug on KRP5 and KRP11 models; 11-pin on KRP14. Gold-flashed silver contacts rated 5 amps. Size, 1 13/32" x 1 13/32" x 2" above plug. Wt., 3 oz. Suffix **G** means silver-cadmium oxide contacts on movables, rated 10 amps.

KRP-N Indicator Lamp Relay: General purpose, incorporating a lamp to indicate current or voltage in power circuit. Clear polycarbonate dust cover. Std. octal plug. Silver cadmium-oxide contacts, rated at 10 amps. Size, 1 13/32" x 1 13/32" x 2". Wt., 3 oz.

KUP Series with Suffix 15: Reliable 10-amp relay for industrial control applications. Has .187" quick connect/solder-type terminals. Enclosed in clear polycarbonate dust cover. Silver cadmium-oxide contacts assure long life. Continuous operation. Max. size, 1.531" x 1.406" x 1.906" h. seated; terminals, .316" lg.

KUP Series with Suffix 11: Same as 15 Series except silver contacts rated 5 amps.

KUP Series with Suffix 55: Same as 15 Series but has slotted flange case for direct-to-chassis mounting. Identical electrically and mechanically, except not suitable for socket mounting. Rated at 10 amps. Has .187" quick connect/solder-type terminals; .156" wide slots are on 2.90" max. mounting centers. Wt., 3 oz. All KUP Series are recognized under UL Component Program (File No. E22575).

See another P & B page for accessories.

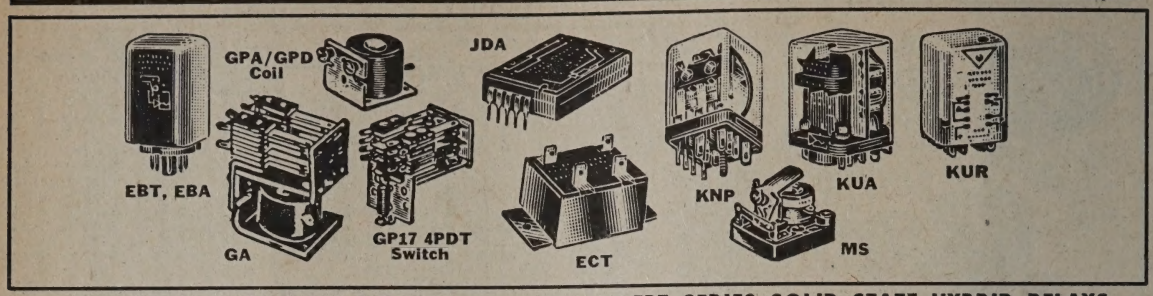
★LARGER QUANTITY PRICES ON REQUEST

GENERAL PURPOSE RELAYS

P & B Number*	Contacts	Coil Voltages	Net Each, Lots of* 1-24	25-50	51-99	100-249
KA5AG	SPDT	6, 12, 24 or 120 VAC	$ 4.50	$ 4.38	$4.05	$3.38
KA5AG	SPDT	240 VAC	5.05	4.80	4.55	3.79
KA5AY	SPDT	6, 12, 24 or 120 VAC	4.45	4.23	4.01	3.34
KA5AY	SPDT	240 VAC	5.00	4.75	4.50	3.75
KA11AG	DPDT	6, 12, 24 or 120 VAC	5.50	5.23	4.95	4.13
KA11AG	DPDT	240 VAC	5.95	5.65	5.36	4.46
KA11AY	DPDT	6, 12, 24 or 120 VAC	5.40	5.13	4.86	4.05
KA11AY	DPDT	240 VAC	5.85	5.56	5.27	4.39
KA11DY	DPDT	48 VDC	4.95	4.70	4.46	3.71
KA14AG	3PDT	6, 12, 24 or 120 VAC	6.05	5.75	5.45	4.54
KA14AG	3PDT	240 VAC	6.70	6.37	6.03	5.03
KA14AY	3PDT	6, 12, 24 or 120 VAC	5.85	5.56	5.27	4.39
KA14AY	3PDT	240 VAC	6.40	6.08	5.76	4.80
KA5DG	SPDT	6, 12 or 24 VDC	4.35	4.13	3.92	3.26
KA5DG	SPDT	110 VDC	5.10	4.85	4.59	3.83
KA5DY	SPDT	6, 12 or 24 VDC	4.30	4.09	3.87	3.23
KA5DY	SPDT	110 VDC	5.05	4.80	4.55	3.79
KA11DG	DPDT	6, 12 or 24 VDC	4.90	4.66	4.41	3.68
KA11DG	DPDT	110 VDC	5.70	5.42	5.13	4.28
KA11DY	DPDT	6, 12 or 24 VDC	4.70	4.47	4.23	3.53
KA11DY	DPDT	110 VDC	5.55	5.27	5.00	4.16
KA14DG	3PDT	6, 12 or 24 VDC	5.55	5.27	5.00	4.16
KA14DG	3PDT	110 VDC	6.35	6.03	5.72	4.76
KA14DY	3PDT	6, 12 or 24 VDC	5.35	5.08	4.82	4.01
KA14DY	3PDT	110 VDC	6.15	5.84	5.54	4.61
KAP5AG	SPDT	24 or 120 VAC	7.60	7.22	6.84	5.70
KAP11AG	DPDT	6, 24 or 120 VAC	8.50	8.08	7.65	6.38
KAP11AY	DPDT	24 or 120 VAC	8.35	7.93	7.52	6.26
KAP11AY	DPDT	240 VAC	8.85	8.41	7.97	6.64
KAP14AG	3PDT	24 or 120 VAC	10.50	9.98	9.45	7.88
KAP14AY	3PDT	24 or 120 VAC	10.35	9.83	9.32	7.76
KAP14AY	3PDT	240 VAC	10.80	10.26	9.72	8.10
KAP5DG	SPDT	24 VDC	7.45	7.08	6.71	5.59
KAP5DG	SPDT	110 VDC	8.35	7.93	7.52	6.26
KAP11DG	DPDT	24 VDC	8.45	8.03	7.61	6.34
KAP11DG	DPDT	110 VDC	9.30	8.84	8.37	6.98
KAP11DY	DPDT	12 or 24 VDC	8.30	7.89	7.47	6.23
KAP11DY	DPDT	110 VDC	9.15	8.69	8.24	6.86
KAP14DG	3PDT	24 VDC	10.45	9.93	9.41	7.84
KAP14DG	3PDT	110 VDC	11.30	10.74	10.17	8.48
KAP14DY	3PDT	12 or 24 VDC	10.25	9.74	9.23	7.69
KAP14DY	3PDT	110 VDC	11.00	10.45	9.90	8.25
KR3AH	SPST-NO-DM	12, 24 or 120 VAC	5.45	5.18	4.91	4.09
KR3DH	SPST-NO-DM	12 or 24 VDC	5.15	4.89	4.64	3.86
KR3DH	SPST-NO-DM	110 VDC	6.10	5.80	5.49	4.58
KRP3AH	SPST-NO-DM	12, 24 or 120 VAC	8.70	8.27	7.83	6.53
KRP3DH	SPST-NO-DM	12 or 24 VDC	8.45	8.03	7.61	6.34
KRP3DH	SPST-NO-DB	110 VDC	9.30	8.84	8.37	6.98
KRP5A	SPDT	6, 12, 24 or 120 VAC	7.45	7.08	6.71	5.59
KRP5AG	SPDT	6, 12, 24 or 120 VAC	7.70	7.32	6.93	5.78
KRP11A	DPDT	6, 12, 24 or 120 VAC	8.30	7.89	7.47	6.23
KRP11A	DPDT	240 VAC	8.85	8.41	7.97	6.64
KRP11AG	DPDT	6, 12, 24 or 120 VAC	8.60	8.17	7.74	6.45
KRP11AG	DPDT	240 VAC	9.15	8.69	8.24	6.86
KRP11AN	DPDT	6, 12, 24 or 120 VAC	9.85	9.36	8.87	7.39
KRP11AN	DPDT	240 VAC	10.40	9.88	9.36	7.80
KRP14A	3PDT	6, 12, 24 or 120 VAC	10.35	9.83	9.32	7.76
KRP14A	3PDT	240 VAC	10.85	10.31	9.77	8.14
KRP14AG	3PDT	6, 12, 24 or 120 VAC	10.70	10.17	9.63	8.03
KRP14AG	3PDT	240 VDC	11.30	10.74	10.17	8.48
KRP14AN	3PDT	6, 12, 24 or 120 VAC	12.00	11.40	10.80	9.00
KRP14AN	3PDT	240 VAC	12.50	11.88	51.25	9.38
KRP5D	SPDT	6, 12 or 24 VDC	7.40	7.03	6.66	5.55
KRP5D	SPDT	110 VDC	8.25	7.84	7.43	6.19
KRP5DG	SPDT	6, 12 or 24 VDC	7.60	7.22	6.84	5.70
KRP5DG	SPDT	110 VDC	8.45	8.03	7.61	6.34
KRP11D	DPDT	6, 12 or 24 VDC	8.25	7.84	7.43	6.19
KRP11D	DPDT	48 VDC	8.70	8.27	7.83	6.53
KRP11D	DPDT	110 VDC	9.10	8.65	8.19	6.83
KRP11DG	DPDT	6, 12 or 24 VDC	8.55	8.12	7.70	6.41
KRP11DG	DPDT	48 VDC	9.05	8.60	8.15	6.79
KRP11DG	DPDT	110 VDC	9.40	8.93	8.46	7.05
KRP11DN	DPDT	6, 12 or 24 VDC	9.70	9.22	8.73	7.28
KRP11DN	DPDT	110 VDC	10.60	10.07	9.54	7.95
KRP14D	3PDT	6, 12 or 24 VDC	10.25	9.74	9.23	7.69
KRP14D	3PDT	48 VDC	10.65	10.12	9.59	7.99
KRP14D	3PDT	110 VDC	11.00	10.45	9.90	8.25
KRP14DG	3PDT	6, 12 or 24 VDC	10.60	10.07	9.54	7.95
KRP14DG	3PDT	48 VDC	11.10	10.55	9.99	8.33
KRP14DG	3PDT	110 VDC	11.45	10.88	10.31	8.59
KRP14DN	3PDT	24 VDC	11.85	11.26	10.67	8.89
KUP5A15	SPDT	6, 12, 24 or 120 VAC	4.85	4.61	4.37	3.64
KUP5A15	SPDT	240 VAC	5.40	5.13	4.86	4.05
KUP5D15	SPDT	6, 12 or 24 VDC	4.65	4.42	4.19	3.49
KUP5D15	SPDT	110 VDC	5.45	5.18	4.91	4.09
KUP11A11	DPDT	120 VAC	5.70	5.42	5.13	4.28
KUP11A15	DPDT	6, 12, 24 or 120 VAC	5.90	5.61	5.31	4.43
KUP11A15	DPDT	240 VAC	6.45	6.13	5.81	4.84
KUP11D11	DPDT	24 VDC	5.15	4.89	4.64	3.86
KUP11D15	DPDT	6, 12 or 24 VDC	5.35	5.08	4.82	4.01
KUP11D15	DPDT	110 VDC	6.15	5.84	5.54	4.61
KUP14A11	3PDT	120 VAC	6.35	6.03	5.72	4.76
KUP14A15	3PDT	6, 12, 24 or 120 VAC	6.60	6.27	5.94	4.95
KUP14A15	3PDT	240 VAC	7.15	6.79	6.44	5.36
KUP14D15	3PDT	6, 12 or 24 VDC	6.10	5.80	5.49	4.58
KUP14D15	3PDT	110 VDC	6.60	6.27	5.94	4.95
KUP5A55	SPDT	120 VAC	4.85	4.61	4.37	3.64
KUP11A55	DPDT	24 or 120 VAC	5.90	5.61	5.31	4.43
KUP14A55	3PDT	6, 12, 24 or 120 VAC	6.60	6.27	5.94	4.95
KUP14A55	3PDT	240 VAC	7.15	6.79	6.44	5.36
KUP5D55	SPDT	24 VDC	4.65	4.42	4.19	3.49
KUP11D55	DPDT	6, 12 or 24 VDC	5.35	5.08	4.82	4.01
KUP11D55	DPDT	110 VDC	6.15	5.84	5.54	4.61
KUP14D55	3PDT	6, 12 or 24 VDC	6.10	5.80	5.49	4.58
KUP14D55	3PDT	110 VDC	6.60	6.27	5.94	4.95

*Specify coil voltage when ordering.

AMF | POTTER & BRUMFIELD Relays



GENERAL PURPOSE RELAYS

GA Series: Multiple-contact, voltage switching relay designed for industrial control applications. Silver contacts rated 5 A; tinned, pierced solder terminals. Mounts on 8-32 tapped core with locating boss. Size, 1.063″ x 1.719″ x 1.781″. Weight, 3½ oz.

KNP Series: Small relay designed for economizing chassis space. Recognized under UL Component Program and CSA listing for 1/10 hp at 120 VAC; 3 A at 32 VDC resistive or 3 A at 240 VAC, 80% PF. Fine silver cross bar contacts. Terminals are .110″ quick-connect/solder; sockets available separately. May be chassis mounted by 3-48 stud. In clear polycarbonate dust cover. Size, 0.980″ x 1.000″ x 1.450″ seated. Weight, 1.4 oz. approximate.

KUMP Series relays are U.L. recognized, and CSA listing is pending. The KUMP relays are identical to the KUP Series except that the contacts are silver-cadmium-oxide rated 15 A at 28 VDC or 277 VAC, 80% P F ; ¼ H P , 120 VAC; ½ H P., 240 VAC.

POWER RELAYS

GF Series: Medium duty for industrial control applications. Similar to GA series except long contact arms have silver contacts rated 10 A at 120 VAC or 28 VDC resistive; excellent wipe or self-cleaning action. Tinned, pierced solder terminals; 8-32 tapped core with locating boss mtg. Size, 1.016″ x 2.531″ x 2.093″ max. Weight, 4.75 oz.

MOTOR STARTING

MS Series: For starting capacitor start, induction-run motors. Operates on back EMF of start winding. Armature gap can be altered to change pick-up. Recognized under UL Component Program. Two .156″ dia. mounting holes on 1.563″ centers. Contacts rated ¾ hp, fine silver; 3 hp, silver cadmium. Size, 2.063″ x 3.063″ x 2.125″. Weight, 5 oz. maximum.

SPECIAL PURPOSE

GP Series: Separate AC and DC coils to match with 2PDT or 4PDT switches. Silver contacts rated 5 amps.

P & B No.*	Contacts	Coil Voltages or Current	Net Ea., Lots of* 1-24	25-50	51-99
GA11A	DPDT	6, 12, 24 or 120 VAC	$6.15	$5.84	$5.54
GA11D	DPDT	6, 12 or 24 VDC	5.90	5.61	5.31
GA11D	DPDT	110 VDC	6.45	6.13	5.81
GA14A	3PDT	24 or 120 VAC	7.50	7.13	6.75
GA17A	4PDT	6, 12, 24 or 120 VAC	8.65	8.22	7.79
GA17A	4PDT	240 VAC	8.85	8.41	7.97
GA17D	4PDT	6, 12 or 24 VDC	7.95	7.55	7.16
GA17D	4PDT	110 VDC	8.50	8.08	7.65
GF17A	4PDT	12, 24 or 120 VAC	8.70	8.27	7.83
GF17A	4PDT	240 VAC	9.15	8.69	8.24
GF17D	4PDT	6, 12 or 24 VDC	8.70	8.27	7.83
GF17D	4PDT	110 VDC	9.30	8.84	8.37
GPA	.....	6, 12, 24 or 120 VAC	2.35	2.23	2.12
GPA	.....	240 VAC	2.85	2.71	2.57
GPD	.....	6, 12 or 24 VDC	2.85	2.71	2.57
GPD	.....	110 VDC	4.25	4.04	3.83
GPD	.....	2500 ohm coil	2.15	2.04	1.94
GPD	.....	5000 ohm coil	2.45	2.33	2.21
GPD	.....	10K ohm coil	2.85	2.71	2.57
GP11	DPDT	Switch assembly	2.40	2.28	2.16
GP17	4PDT	Switch assembly	4.05	3.85	3.65
KNP5A21	SPDT	12, 24 or 120 VAC	5.90	5.61	5.31
KNP5D21	SPDT	6, 12 or 24 VDC	4.95	4.70	4.46
KNP5D21	SPDT	110 VDC	5.90	5.61	5.31
KNP11A21	DPDT	12, 24 or 120 VAC	6.85	6.51	6.17
KNP11D21	DPDT	6, 12 or 24 VDC	5.75	5.46	5.18
KNP11D21	DPDT	48 VDC	6.00	5.70	5.40
KNP14A21	3PDT	12, 24 or 120 VAC	7.75	7.36	6.98
KNP14D21	3PDT	12 or 24 VDC	6.70	6.37	6.03
MS2AY	SPST-NC	120 VAC, ¾ hp motor	7.30	6.94	6.57
MS2AY	SPST-NC	240 VAC, ¾ hp motor	7.50	7.13	6.75
MS4AY	SPST-NC-DB	120 VAC, 3 hp motor	8.10	7.70	7.29
MS4AY	SPST-NC-DB	240 VAC, 3 hp motor	8.25	7.84	7.43

P & B Number*	Contacts	Coil	Net Each 1-24	25-50	51-99	100-249
KUMP11A18	DPDT	6, 12, 24, 120 VAC	$6.35	$6.03	$5.72	$4.76
KUMP11A18	DPDT	240 VAC	6.90	6.56	6.21	5.18
KUMP11D18	DPDT	6, 12, 24 VDC	5.80	5.51	5.22	4.35
KUMP11D18	DPDT	120 VDC	6.60	6.27	5.94	4.95

*Specify coil voltage or resistance when ordering.

EBT SERIES SOLID STATE HYBRID RELAYS

Combines the input/output isolation of a reed relay with the inrush switching capabilities and long life of a solid state switch. EBT relays switch 7 A, 60 Hz at 25° ambient temperature with nominal load voltage of 120 V. Rated 5 A rms, 60 Hz at 55° C ambient. Min. operating current, 200 mA, 60 Hz. Expected life, greater than 10 million bounce-free operations. Operate time, 2 msec max.; release time, 10 msec max. Typical "closed contact" voltage drop, 1.1 V. Octal terminals for standard 8-pin socket. Weight, approximately 5.5 oz.

P & B No.*	Nominal Voltage	Net Each, Lots of 1-9	10-24	25-49	50-99
EBT1DA52	12, 24 VDC	$17.50	$16.63	$15.75	$14.00

*Specify coil voltage when ordering.

EBA SOLID STATE HYBRID RELAY

Has all the output switching characteristics, package and mounting of EBT, but includes a control signal amplifier. Designed to operate from current source output mode of DTL and TTL logic circuits; 60 μW signal will switch a 7 A load. Must operate voltage, 2.4 VDC at approx. 25 μA with 24 VDC supply. Max. input, 30 VDC or 1 mA; releases when voltage is reduced to .5 VDC or less. Control voltage change rate must exceed 1 V/msec. Polarity protection provided for control input and supply voltage terminals.

P & B No.	Nominal Voltage	Operate Time	Net Each, Lots of 1-9	10-24	25-49	50-99
EBA1GA52	24 VDC	2 msec	$24.60	$23.37	$22.14	$19.68

ECT SOLID STATE HYBRID RELAYS

ECT series is a medium power triac controlled and isolated by a reed relay. Input power is 290 mW for a 120 VAC, 50/60 Hz line. Expected life is in excess of 10 million operations. Operate time is 2 msec max.; release time, 10 msec max. at 25° C. **Size:** 2.64″ x 1.50″ x 1.52″.

P & B Number	Contacts	Nom. Volts	Net Each, Lots of 1-9	10-24	25-49	50-99
ECT1DC72	SPST-NO	5	$15.05	$14.30	$13.55	$12.04
ECT1DB44	SPST-NO	24	14.80	14.06	13.32	11.84

JDA AMPLIFIER-DRIVEN JDT REED RELAY

Sensitive reed relay features same design as JDT Series. Control signal is amplified by solid state driver circuit with 100 μW sensitivity. Control signals between 24 VDC and 30 VDC will operate JDA when specified supply voltage is applied. Releases when control signal is reduced to .5 VDC or less. Designed for control voltage change rate exceeding 1 V/msec. Contacts rated 10 watts max. resistive per contact, 50 VDC or .5 amp max. Terminals spaced on .1″ grid centers. Weight, 4 oz., approximate.

P & B No.	Contacts	Nominal Voltage	Net Each, Lots of 1-9	10-24	25-49	50-99
JDA7GB1	DPDT-NO	24 VDC	$11.65	$11.07	$10.49	$9.32

KUA SOLID STATE AMPLIFIER-DRIVEN RELAY

Amplifier driven KUP relay operates from low power signals associated with IC circuits. Input sensitivity of 60 μW. Control signal of 24 VDC at 25 μA approx. operates relay at specified voltage. Control signal 30 VDC or 1 mA max. Must release control voltage 0.5 VDC at specified supply voltage. Polarity protection. Gold-flashed fine silver contacts switch 5 A at 28 VDC resis. or 120 V, 60 Hz, 80% PF. Clear polycarbonate case; .187″ quick-connect/solder terminals fit KU sockets. Weight, 3.5 oz. approx.

P & B No.	Contacts	Nominal Voltage	Net Each, Lots of 1-9	10-24	25-49	50-99
KUA5G11	SPDT	24 VDC	$14.45	$13.73	$13.01	$11.56
KUA11G11	DPDT	24 VDC	14.90	14.16	13.41	11.92

KUR SERIES SOLID STATE HYBRID RELAYS

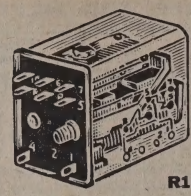
KUR direct action impulse relays for applications requiring on-off operation or alternate energizing of two loads. Solid state flip-flop circuit precedes permanent magnet latching relay; allows relay to remain latched during complete power loss. Requires 25 msec min. pulse width; up to 1200 pulses per minute repetition rate. Gold-flashed fine silver contacts rated 5 amps at 28 VDC or 120 VAC, 80% PF. Terminals are .187″ quick-connect/solder type and fit standard KU sockets. Yellow plastic cover. Weight, 3½ oz. approx.

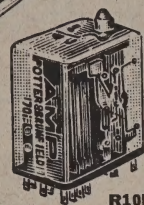
KUR11D11	DPDT	24 VDC	$21.80	$20.71	$19.62	$16.35

See another P & B page for accessories.

★LARGER QUANTITY PRICES ON REQUEST

R40


R10


R10L

R10 Series: Dependable and versatile, a fine choice for switching loads from dry circuit to 5 amps. Sensitivities to 20 mW/pole available. Operating temp., −55° C to +72° C. Transparent enclosure. Three styles of contacts available: UL File No. E42810. Type R10-**E1** has plug-in solder terminals and mounting stud (sockets optional, see P&B Accessory Page); R10-**E2** has printed circuit terminals, no stud mounting. Final suffix signifies coil ohms.
R10L Series: Has light emitting diode (LED) indicator; produces highly visible red light when relay coil is energized. Other operating characteristics same as standard R10 Series.
R40 Series Slimline® 4PDT Relays: For PC boards; allows .6″ board mtg. centers. Many contacts available with wide range of coil voltages; only .43″ thick for low profile designs. Switching range from true dry circuit to 5 A; pull-in power, 720 mW. Size, 1.20″ x 1.40″ x .43″. Final suffix signifies coil ohms. Type R40-**E1** has solder terminals or plug-in socket mtg.; R40-**E2** has PC pin for vertical mtg. less socket; R40-**E3** has PC pins for flat mtg. less socket.
R10 and R40 Series recognized under UL Component Program and CSA Component Program (File 32074) except R10-E1-X8-115VAC.

2 AMPS TYP. (3 AMPS MAX.)

P&B Number R10-	Contacts	DC Coil Volts	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999*
E1-Y2-V52	DPDT	6	$3.90	$3.51	$3.12	$2.73	$2.54
E1-Y2-V185	DPDT	12	3.90	3.51	3.12	2.73	2.54
E2-Y2-V185	DPDT	12	3.90	3.51	3.12	2.73	2.54
E1-Y2-V700	DPDT	24	3.90	3.51	3.12	2.73	2.54
E2-Y2-V700	DPDT	24	3.90	3.51	3.12	2.73	2.54
E1-Y2-V2.5K	DPDT	48	3.90	3.51	3.12	2.73	2.54
E1-Y2-V15.0K	DPDT	115	6.15	5.54	4.92	4.31	4.00
E1-Y4-V52	4PDT	6	4.30	3.87	3.44	3.01	2.80
E1-Y4-V185	4PDT	12	4.30	3.87	3.44	3.01	2.80
E2-Y4-V185	4PDT	12	4.30	3.87	3.44	3.01	2.80
E1-Y4-V700	4PDT	24	4.30	3.87	3.44	3.01	2.80
E2-Y4-V700	4PDT	24	4.30	3.87	3.44	3.01	2.80
E1-Y4-V2.5K	4PDT	48	4.30	3.87	3.44	3.01	2.80
E1-Y4-V15.0K	4PDT	115	6.55	5.90	5.24	4.59	4.26
E1-Y6-V25	6PDT	6	5.55	5.00	4.44	3.89	3.61
E1-Y6-V90	6PDT	12	5.55	5.00	4.44	3.89	3.61
E2-Y6-V90	6PDT	12	5.55	5.00	4.44	3.89	3.61
E1-Y6-V430	6PDT	24	5.55	5.00	4.44	3.89	3.61
E2-Y6-V430	6PDT	24	5.55	5.00	4.44	3.89	3.61
E1-Y6-V1.5K	6PDT	48	5.55	5.00	4.44	3.89	3.61
E2-Y6-V1.5K	6PDT	48	5.55	5.00	4.44	3.89	3.61
E1-Y6-V9.0K	6PDT	115	6.55	5.90	5.24	4.59	4.26

5 AMPS TYP. (7½ AMPS MAX.)

E1-X2-V52	DPDT	6	$4.05	$3.65	$3.24	$2.84	$2.63
E1-X2-V185	DPDT	12	4.05	3.65	3.24	2.84	2.63
E1-X2-V700	DPDT	24	4.05	3.65	3.24	2.84	2.63
E2-X2-V700	DPDT	24	4.05	3.65	3.24	2.84	2.63
E1-X2-V2.5K	DPDT	48	4.05	3.65	3.24	2.84	2.63
E1-X2-V15.0K	DPDT	115	6.30	5.67	5.04	4.41	4.10
E1-X4-V52	4PDT	6	4.60	4.14	3.68	3.22	2.99
E1-X4-V185	4PDT	12	4.60	4.14	3.68	3.22	2.99
E1-X4-V700	4PDT	24	4.60	4.14	3.68	3.22	2.99
E1-X4-V2.5K	4PDT	48	4.60	4.14	3.68	3.22	2.99
E1-X4-V15.0K	4PDT	115	6.85	6.17	5.48	4.80	4.45
E1-X6-V25	6PDT	6	6.00	5.40	4.80	4.20	3.90
E1-X6-V90	6PDT	12	6.00	5.40	4.80	4.20	3.90
E1-X6-V430	6PDT	24	6.00	5.40	4.80	4.20	3.90
E1-X6-V1.5K	6PDT	48	6.00	5.40	4.80	4.20	3.90
E1-X6-V9.0K	6PDT	115	7.00	6.30	5.60	4.90	4.55

100 mA TYP. (2 AMPS MAX.)— BIFURCATED LOW LEVEL CONTACTS

E1-Z2-V52	DPDT	6	$4.35	$3.92	$3.48	$3.05	$2.83
E1-Z2-V185	DPDT	12	4.35	3.92	3.48	3.05	2.83
E1-Z2-V700	DPDT	24	4.35	3.92	3.48	3.05	2.83
E1-Z2-V2.5K	DPDT	48	4.35	3.92	3.48	3.05	2.83
E1-Z2-V15.0K	DPDT	115	6.60	5.94	5.28	4.62	4.29
E1-Z4-V52	4PDT	6	4.90	4.41	3.92	3.43	3.19
E1-Z4-V185	4PDT	12	4.90	4.41	3.92	3.43	3.19
E2-Z4-V185	4PDT	12	4.90	4.41	3.92	3.43	3.19
E1-Z4-V700	4PDT	24	4.90	4.41	3.92	3.43	3.19
E2-Z4-V700	4PDT	24	4.90	4.41	3.92	3.43	3.19
E1-Z4-V2.5K	4PDT	48	4.90	4.41	3.92	3.43	3.19
E1-Z4-V15.0K	4PDT	115	7.15	6.44	5.72	5.01	4.65
E1-Z6-V25	6PDT	6	6.30	5.67	5.04	4.41	4.10
E1-Z6-V90	6PDT	12	6.30	5.67	5.04	4.41	4.10
E2-Z6-V90	6PDT	12	6.30	5.67	5.04	4.41	4.10
E1-Z6-V430	6PDT	24	6.30	5.67	5.04	4.41	4.10
E2-Z6-V430	6PDT	24	6.30	5.67	5.04	4.41	4.10
E1-Z6-V1.5K	6PDT	48	6.30	5.67	5.04	4.41	4.10
E2-Z6-V1.5K	6PDT	48	6.30	5.67	5.04	4.41	4.10
E1-Z6-V9.0K	6PDT	115	7.30	6.57	5.84	5.11	4.75

SENSITIVE CURRENT (J ADJUSTMENT)

2 AMPS TYP. (3 AMPS MAX.)

E1-Y2-J2.5K	DPDT	5.8*	$4.25	$3.83	$3.40	$2.98	$2.76
E1-Y2-J5.0K	85 mW	4.1*	4.80	4.32	3.84	3.36	3.12
E1-Y2-J10.0K		3.1*	5.20	4.68	4.16	3.64	3.38
E1-Y4-J2.5K	4PDT	8.4*	4.70	4.23	3.76	3.29	3.06
E1-Y4-J5.0K	175 mW	6.2*	5.25	4.73	4.20	3.68	3.41
E1-Y4-J10.0K		4.5*	5.70	5.13	4.56	3.99	3.71

100 mA TYP. (2 AMPS MAX.)

E1-Z4-J1.0K	4PDT	13.0*	$5.30	$4.77	$4.24	$3.71	$3.45
E1-Z4-J2.5K	175 mW	8.4*	5.30	4.77	4.24	3.71	3.45
E2-Z4-J2.5K		8.4*	5.30	4.77	4.24	3.71	3.45
E1-Z4-J5.0K		6.2*	5.85	5.27	4.68	4.10	3.80
E2-Z4-J5.0K		6.2*	5.85	5.27	4.68	4.10	3.80

*mA.

★LARGER QUANTITY PRICES ON REQUEST

7½ AMPS TYP. (10 AMPS MAX.)

P&B Number R10-	Contacts	DC Coil Volts	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999*
E1-W2-V185	DPDT	12	$4.65	$4.19	$3.72	$3.26	$3.02
E1-W2-V700	DPDT	24	4.65	4.19	3.72	3.26	3.02

5 AMPS TYP. (7½ AMPS MAX.)—AC

E1-X2-115VAC	DPDT	115	$6.65	$5.99	$5.32	$4.66	$4.32
E1-X4-115VAC	4PDT	115	8.10	7.29	6.48	5.67	5.27
E1-X6-115VAC	6PDT	115	11.25	10.13	9.00	7.88	7.31
E1-X8-115VAC	8PDT	115	13.55	12.20	10.84	9.49	8.81

2 AMPS TYP. (3 AMPS MAX.)

P&B Number R10L-	Contacts	DC Coil Volts	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999*
E1-Y2-V52	DPDT	6	$7.60	$6.84	$6.08	$5.32	$4.94
E1-Y2-V185	DPDT	12	7.60	6.84	6.08	5.32	4.94
E2-Y2-V185	DPDT	12	7.60	6.84	6.08	5.32	4.94
E1-Y2-V700	DPDT	24	7.60	6.84	6.08	5.32	4.94
E1-Y2-V2.5K	DPDT	48	7.60	6.84	6.08	5.32	4.94
E1-Y4-V52	4PDT	6	8.00	7.20	6.40	5.60	5.20
E1-Y4-V185	4PDT	12	8.00	7.20	6.40	5.60	5.20
E1-Y4-V700	4PDT	24	8.00	7.20	6.40	5.60	5.20
E2-Y4-V700	4PDT	24	8.00	7.20	6.40	5.60	5.20
E1-Y6-V430	6PDT	24	9.25	8.33	7.40	6.48	6.01

5 AMPS TYP. (7½ AMPS MAX.)

E1-X2-V185	2PDT	12	$7.75	$6.98	$6.20	$5.43	$5.04
E1-X2-V700	2PDT	24	7.75	6.98	6.20	5.43	5.04
E1-X4-V185	4PDT	12	8.30	7.47	6.64	5.81	5.40
E1-X4-V700	4PDT	24	8.30	7.47	6.64	5.81	5.40
E1-X4-V2.5K	4PDT	48	8.30	7.47	6.64	5.81	5.40
E1-X6-V430	6PDT	24	9.70	8.73	7.76	6.79	6.31

100 mA TYP. (2 AMPS MAX.) BIFURCATED LOW LEVEL CONTACTS

E1-Z4-V700	4PDT	24	$8.60	$7.74	$6.88	$6.02	$5.59

2 AMPS TYP. (3 AMPS MAX.)

P&B Number R40-	DC Coil Volts	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999	1000 Up
E1-Y4-V50	6	$6.65	$5.99	$5.32	$4.66	$4.32	$3.99
E1-Y4-V200	12	6.65	5.99	5.32	4.66	4.32	3.99
E2-Y4-V200	12	6.65	5.99	5.32	4.66	4.32	3.99
E3-Y4-V200	12	6.65	5.99	5.32	4.66	4.32	3.99
E1-Y4-V800	24	6.65	5.99	5.32	4.66	4.32	3.99
E2-Y4-V800	24	6.65	5.99	5.32	4.66	4.32	3.99
E3-Y4-V800	24	6.65	5.99	5.32	4.66	4.32	3.99
E1-Y4-V3.2K	48	6.65	5.99	5.32	4.66	4.32	3.99
E3-Y4-V3.2K	48	6.65	5.99	5.32	4.66	4.32	3.99

5 AMPS TYP. (7½ AMPS MAX.)

E2-X4-V50	6	$6.95	$6.26	$5.56	$4.87	$4.52	$4.17
E1-X4-V200	12	6.95	6.26	5.56	4.87	4.52	4.17
E2-X4-V200	12	6.95	6.26	5.56	4.87	4.52	4.17
E3-X4-V200	12	6.95	6.26	5.56	4.87	4.52	4.17
E1-X4-V800	24	6.95	6.26	5.56	4.87	4.52	4.17
E2-X4-V800	24	6.95	6.26	5.56	4.87	4.52	4.17
E3-X4-V800	24	6.95	6.26	5.56	4.87	4.52	4.17

100 mA TYP. (2 AMPS MAX.) BIFURCATED LOW LEVEL CONTACTS

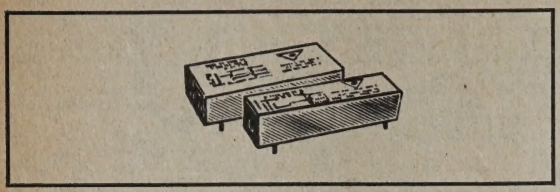
E1-Z4-V200	12	$7.25	$6.53	$5.80	$5.08	$4.71	$4.35
E2-Z4-V200	12	7.25	6.53	5.80	5.08	4.71	4.35
E3-Z4-V200	12	7.25	6.53	5.80	5.08	4.71	4.35
E1-Z4-V800	24	7.25	6.53	5.80	5.08	4.71	4.35
E3-Z4-V800	24	7.25	6.53	5.80	5.08	4.71	4.35

500 μA TYP. (¼ AMP MAX.)— DRY CIRCUIT CROSS BAR

E1-L4-V200	12	$8.30	$7.47	$6.64	$5.81	$5.40	$4.98
E3-L4-V200	12	8.30	7.47	6.64	5.81	5.40	4.98
E1-L4-V800	24	8.30	7.47	6.64	5.81	5.40	4.98
E3-L4-V800	24	8.30	7.47	6.64	5.81	5.40	4.98

See another P&B page for accessories.

SOLID STATE CJ SERIES DRY REED TIME DELAY RELAYS



P&B Number	Time Delay, Seconds	Input Voltage	External Resistor Ohms*	Net Each 1-9*
CJH01-20010	0.1 to 10	12 VDC	750K	$22.75
CJH01-20120	1 to 120	12 VDC	1.8 megs	25.95
CJH01-30010	0.1 to 10	24 VDC	750K	22.75
CJH01-30120	1 to 120	24 VDC	1.8 megs	25.95
CJH03-20010	0.1 to 10	12 VDC	750K	24.95
CJH03-30010	0.1 to 10	24 VDC	750K	24.95

*Value of external resistor required for maximum delay time.

★LARGER QUANTITY PRICES ON REQUEST

CJ Series time delay dry reed relays combine the basic timing characteristics of time delay relays with the long life and performance of miniature dry reed relays. **CJH** is external resistor-adjustable delay on operate. Pin terminations are for PC board mounting. **Time Delay Periods:** Choice of 0.1 to 10 sec, or 1 to 120 sec, adjustable to ±10% at nominal voltage at 25° C ambient temperature. **Operating Temperature:** −10° C to +55° C. **Contact Forms:** Up to 1C (A+B) in three cavities. **Size:** 2.718″ max. x 0.688″ to 1.094″ x 0.710″. Weight, 1½ oz. approx.

ACCESSORIES FOR P&B RELAYS, DELAYS AND SENSORS

SOCKETS

P&B Number	For Relay	Contacts	Terminals	Box Qty.	Net/ Box
9HP1	HCM, HPS, HP	DPDT	Solder and socket retainer	10 ea.	$11.00
9KH1	KHP, KHS, KHU*	4PDT	Solder and socket retainer	10 ea.	7.30
9KH2		4PDT	Printed circuit	10	7.30
9KH5		4PDT	Screw—rated 3 A	5	34.00
9KN1	KNP	SPDT/ DPDT/ 3PDT	Solder	10	7.60
9KN2			Printed circuit	10	7.60
9KR31	KAP, KBP, KCP, KRP, KRP3-H, EBA, EBT†	8-pin 11-pin	Screw—rated 10 A	5	14.00
9KR32			Screw—rated 10 A	5	21.00
9KU1‡	KUL, KUP plain case, KUR§	SPDT/ DPDT/ 3PDT	Pierced solder—10 A	5	4.45
9KU2‡			Printed circuit	5	5.25
9KU5‡			Quick-connect—10 A	5	7.00
9KU6			Screw—10 A	4	17.80

*And CD-31 time delay. †And CD-21, CD-38, CK, CH time delays; CPS, CS-38 sensors. ‡Recognized under UL Component Program. §And CU, CL time delays. #Not assembled.

SOCKETS FOR R10 AND R10L SERIES RELAYS

With ground; not recommended for relays carrying 5 amps AC and above.

P&B Number	Contacts	Terminal	Contents	Net per Box
9XR10-1	DPDT	Solder	10 each, sockets and hold down springs	$ 6.40
9XR10-2	4PDT	Solder		8.00
9XR10-3	6PDT	Solder		10.10
9XR10-4	DPDT	PC pins	10 each, sockets and hold down springs	6.40
9XR10-5	4PDT	PC pins		8.00
9XR10-6	6PDT	PC pins		12.10
9XR10-7*	DPDT	Solder	10 each, sockets and hold down springs	6.40
9XR10-8*	4PDT	Solder		8.00
9XR10-9*	6PDT	Solder		9.60
9XR10-10	Pkg. 50 strap hold down springs, PC skts.			3.00
9XR10-11*	DPDT	PC pins	10 each, sockets and hold down springs	6.40
9XR10-12*	4PDT	PC pins		8.00
9XR10-13*	6PDT	PC pins		12.10
9XR10-14*	4PDT	Solder brkt. mt.	5 ea., skts, hold down springs	5.55
9XR10-15	20 pre-punched break-away mounting plates for R-10 relay or sockets			30.84

*Without ground. †Box of 12 strips.

SOCKETS FOR R40 SLIMLINE SERIES RELAYS

9XR40-1	4PDT	Right angle PC	10 each, sockets and hold down springs	$16.00
9XR40-2	4PDT	Vert. PC		11.60
9XR40-3	4PDT	Chassis mount—solder	As above, plus mounting clips	12.70

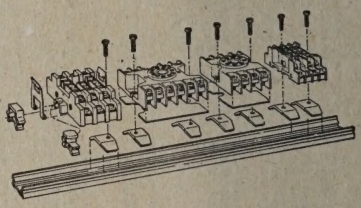
SOCKETS FOR R12 SERIES TIME DELAY RELAYS

9XR12-1	DPDT	Solder PC pins	10 ea., skts, hold down springs	$10.10
9XR12-2	DPDT			10.10

SOCKETS FOR R13, R14 SERIES

9XR13-1	4PDT	Solder terminals	10 each, with grounding strip	$15.30
9XR14-1	4PDT			15.30

SCREW TERMINAL SOCKET SYSTEM



For mounting several industrial screw terminal sockets. **No. 24A064:** Three ft. aluminum track with holes on 6″ centers for #8 screws. **No. 9KR42:** Box of 25 plastic twist-clips for mounting 9KH5, 9KR31 and 9KR32 sockets. **No. 9KU7:** Box of 10 aluminum clips, each with one 6-40 x 1½″ screw. **No. 9KU8:** Box of 10 plastic quick-mount clips for 9KU6 sockets. No screws required. **No. 9KU9:** Box of 20 stainless-steel clips for restricting movement of relay inserted into 9KU6 socket. Two required per relay.

P&B No.	Box Qty.	Net/ Box	P&B No.	Box Qty.	Net/ Box	P&B No.	Box Qty.	Net/ Box
24A064	1	$2.20	9KU7	10	$0.70	9KU9	20	$1.80
9KR42	25	2.75	9KU8	10	.90			

HOLD DOWN SPRINGS AND SOCKET RETAINERS

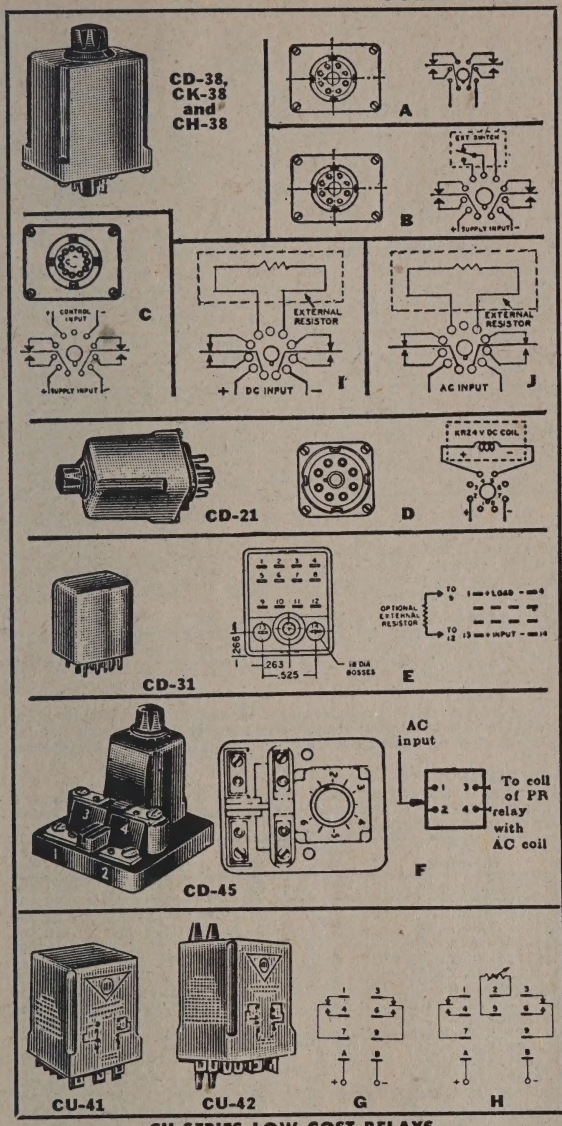
P&B No.	For Relay	Description	Box Qty.	Net/ Box
9KA1	KAP	Hold down spring	50	$ 8.50
9KD3	KDP	Hold down spring	50	
9KH3	KHP, KHS, KHU*	Hold down spring	50	6.50
9KN3	KNP	Hold down spring	50	5.50
9KR15	KCP, KRP	Hold down spring	50	9.50
9KU3	KUP	Hold down spring	50	10.00
9KU7	KUP plain case, KUL, KUR†	Steel mounting clip, one screw	10	.70
9KU8		Quick-Mount clip, no screw	10	.90
9KU9		Stainless steel hold down	20	1.80
9KUL21	KUL	Hold down spring	25	7.00

*And CD-31 time delays. †And CU, CL time delays.

ENCLOSURES AND ADAPTER

P&B No.	For Relay	Description	Box Qty.	Net/ Box
9PM1	PM	Adapter plate for mounting PM on PR mounting holes	10	$4.00
9PM2	PM	Plastic dust cover	4	4.20
35D013	PR	Metal dust cover	1	4.95
35D070	.....	8-pin plug—clear polycarbonate case for mounting rectifiers, capacitors, resistors or any combination	1	.79
35D072	.....	Same as 35D070 except 11-pin plug	1	.95
35D130	MS/MR	Metal dust cover	1	3.30
35D227	PM	Metal dust cover	1	6.00

SOLID STATE TIME DELAY RELAYS



CD SERIES GENERAL PURPOSE TYPES

Dependable, accurate and flexible solid state relays. Choice of knob-adjustable with relay in same enclosure (CD-38) or with an auxiliary relay (CD-21 and CD-45) and external resistor adjustable (CD-31). Delay on operate except CDB38-70012, CDB38-70014, CDB38-70015, CDD38-30008, CDD38-30012 and CDD38-30014 are delay on release when control circuit is de-energized (supply must be energized continuously; see Outline Dwg. C). Temp. range, −40° C to +55° C. Repeatability, ±2% (CD-38, ±1%). Polarity protection. Size: **CD-38,** 1.781″ x 2.875″ x 3.562″ h.; wt., 8 oz. **CD-21,** 1.406″ sq. x 2.562″ h.; wt., 4¼ oz. **CD-31,** .859″ x 1.109″ x 1.28″ h.; wt., 2 oz. **CD-45,** 2.5″ x 3″ x 2.75″ h.; wt., 9 oz.

P&B Number	Outline Dwg.	Time Delay, Seconds	Input Voltage	Notes	Net Each 1-9*
CDA38-70012	A	1.0	120 VAC	a	$45.90
CDB38-70001	A	0.1 to 1	120 VAC	a	50.80
CDB38-70002	A	0.1 to 5	120 VAC	a	50.80
CDB38-70003	A	0.1 to 10	120 VAC	a	50.80
CDB38-70004	A	0.6 to 60	120 VAC	a	50.80
CDB38-70005	A	1.8 to 180	120 VAC	a	50.80
CDB38-30001	A	0.1 to 10	24 VAC	a	50.80
CDB38-30002	A	0.6 to 6	24 VAC	a	50.80
CDD38-30003	A	0.1 to 10	24 VDC	a	48.20
CDD38-30004	A	0.6 to 60	24 VDC	a	48.20
CDD38-30005	A	1.8 to 180	24 VDC	a	48.20
CDD38-40002	A	0.6 to 60	48 VDC	a	48.20
CDB38-70012	C	0.6 to 60	120 VAC	a, g	60.70
CDB38-70014	C	0.1 to 10	120 VAC	a, g	60.70
CDB38-70015	C	1.8 to 180	120 VAC	a, g	60.70
CDD38-30008	C	1.8 to 180	24 VDC	a, g	57.30
CDD38-30012	C	0.6 to 60	24 VDC	a, g	57.30
CDD38-30014	C	0.1 to 10	24 VDC	a, g	57.30
CDF31-70003	E	10 max.	120 VAC	k, m	45.15
CDF38-70001	I	1 max.	120 VAC	a, h	47.25
CDF38-70002	I	5 max.	120 VAC	a, i	47.25
CDF38-70003	I	10 max.	120 VAC	a, k	47.25
CDB21-70003	D	0.1 to 10	120 VAC	b	44.90
CDB21-70001	D	1.8 to 180	120 VAC	b	44.55
CDD21-30003	D	0.1 to 10	24 VDC	c	44.55
CDD21-30001	D	1.8 to 180	24 VDC	c	45.15
CDH31-30005	E	180 max.	24 VDC	d, e	43.85
CDB45-70002	F	0.6 to 60	120 VAC	f	43.05

CH SERIES LOW-COST TYPES

Engineered for a wide range of industrial applications where not-too-critical performance suffices and where economy is more important than precision timing accuracy. Enclosed in a molded white nylon dust cover. Knob-adjustable (except CHA38-70001, fixed delay and CHD38-30021 interval-on) and have plug-in octal terminals. Repeatability, ±2%. Reset time, 125 msec. Operating temp., −10° C to +55° C. Dial setting, reference scale. Polarity protection. Size, 1.781″ x 2.406″ x 3.562″ h., max. Weight, 4 oz.

CHA38-70001	A	10	120 VAC	a	$21.75
CHB38-30001	B	1.0 to 10	24 VAC	a	22.90
CHB38-30003	B	1.0 to 180	24 VAC	a	22.90
CHB38-30011	B	1.0 to 10	24 VAC	a, g	28.60
CHB38-70001	B	1.0 to 10	120 VAC	a	22.90
CHB38-70002	B	1.0 to 60	120 VAC	a	22.90
CHB38-70003	B	1.0 to 180	120 VAC	a	22.90
CHB38-70012	B	1.0 to 60	120 VAC	a, g	29.35
CHB38-70021	B	1.0 to 10	120 VAC	a, j	27.55
CHB38-70022	B	1.0 to 60	120 VAC	a	29.00
CHB38-70023	B	1.0 to 180	120 VAC	a	27.45
CHB38-80001	B	1.0 to 10	240 VAC	a	24.15
CHD38-30001	A	1.0 to 10	24 VDC	a	21.80
CHD38-30003	A	1.0 to 180	24 VDC	a	21.80
CHD38-30021	B	1.0 to 10	24 VDC	a	28.90
CHB38-70011	B	1.0 to 10	120 VAC	a, g	28.05
CHB38-70013	B	1.0 to 180	120 VAC	a, g	27.85
CHD38-30011	B	1.0 to 10	24 VDC	a, g	29.40
CHD38-30013	B	1.0 to 180	24 VDC	a, g	29.35

CU SERIES LOW-COST RELAYS

Available in three types: Fixed or knob adjustable time delay (Outline Drawing G) or adjustable with external resistor (Outline Drawing H). All have internal DPDT relay rated 10 amps at 120 VAC. Type CU-41 has plain case, 1.531″ x 1.406″ x 1.906″; mtg. accessories are available. Type CU-42 has slotted flange case. UL Recognized (File No. E22575). Weight, 3½ oz.

P&B Number	Dwg.	Delay, Seconds	Input Voltage	Ext. Ohms*	Net 1-9*
CUA41-70001	G	1	120 VAC	None	$16.35
CUA41-70010	G	10	120 VAC	None	16.35
CUA41-70120	G	120	120 VAC	None	18.15
CUA41-30010	G	10	24 VAC	None	16.35
CUC41-30010	G	10	24 VDC	None	16.35
CUC41-30120	G	120	24 VDC	None	18.15
CUA42-70010	G	10	120 VAC	None	16.35
CUA42-70120	G	120	120 VAC	None	18.15
CUA42-30010	G	10	24 VAC	None	16.35
CUB51-70010	G	1.0 to 10	120 VAC	None	19.80
CUB51-70120	G	1.0 to 120	120 VAC	None	20.55
CUC42-30010	G	10	24 VDC	None	16.35
CUC42-30120	G	120	24 VDC	None	18.15
CUF41-70010	H	1.0 to 10	120 VAC	200K	17.25
CUF41-70030	H	1.0 to 30	120 VAC	600K	17.85
CUF41-70120	H	1.0 to 120	120 VAC	2.4 megs	18.75
CUF41-30010	H	1.0 to 10	24 VAC	200K	17.25
CUH41-30010	H	1.0 to 10	24 VDC	160K	17.25
CUH41-30120	H	1.0 to 120	24 VDC	2 megs	18.75
CUF42-70010	H	1.0 to 10	120 VAC	200K	17.25
CUF42-70120	H	1.0 to 120	120 VAC	2.4 megs	18.75
CUF42-30010	H	1.0 to 10	24 VAC	200K	17.25
CUH42-30010	H	1.0 to 10	24 VDC	160K	17.25
CUH42-30120	H	1.0 to 120	24 VDC	2 megs	18.75

*Value of external resistor required for maximum delay time.

CK SERIES

Available in three types: Fixed, resistor adjustable and knob adjustable for delay on operate applications. Enclosed in white nylon dust cover for compact and convenient assembly. Does not false operate and will time as low as 0.1 sec. For AC or DC applications where false operation cannot be tolerated. Knob adjustable except CKA, CKC, fixed delay; CKF, CKH, resistor adjustable. Equipped with plug-in octal type terminals. Polarity protection. Size, 2.875″ x 1.781″ x 3.562″ h. max. Weight, 4 oz.

CKA38-70010	A	10	120 VAC	a	$25.20
CKF38-70010	J	.1 to 10	120 VAC	a, l	25.35
CKH38-30010	I	.1 to 10	24 VDC	a, l	24.20
CKB38-30010	A	.1 to 10	24 VAC	a	26.35
CKB38-70010	A	.1 to 10	120 VAC	a	26.35
CKB38-70060	A	.6 to 60	120 VAC	a	26.35
CKB38-70120	A	1.2 to 120	120 VAC	a	26.35
CKD38-20010	A	.1 to 10	12 VDC	a	25.25

Notes: a, Has internal relay with DPDT contacts rated at 10 amps, 120 VAC. **b,** Use with P&B Type KRP5AG, KRP11AG or KRP14AG, 120 VAC relays. **c,** Use with P&B Type KRP5DG, KRP11DG or KRP14DG, 24 VDC relays. **d,** Use with P&B Type KHP17D11, 24 VDC relay. **e,** As supplied, unit has fixed time delay of 180 secs; adjustable to 1.8 sec, with external resistor (not furnished). **f,** Use with P&B Type PR11AY, 120 VAC relay. **g,** Provides delay on release; all other types have delay on operate. **h,** Use 33K external resistor for ½ max. time. **i,** Use 200K external resistor for ½ max. time. **j,** Provides interval on operation. **k,** Use 400K resistor for ½ max. time. **l,** Use 750K resistor for max. time. **m,** Use P & B type KHP17A11-120 VAC relay. **n,** Use 1.6 meg resistor for ½ max. time.

See another P&B page for accessories.

★QUANTITY PRICES AVAILABLE ON REQUEST

SOLID STATE FIXED AND ADJUSTABLE TIME DELAY RELAYS

CL SERIES FIXED AND ADJUSTABLE RELAYS

For applications where false operation cannot be tolerated. Designed for delay on operate. Similar to CU Series except do not false operate when timing interval is interrupted. Includes internally mounted DPDT 10-amp relay enclosed in yellow polycarbonate dust cover. Available in fixed, resistor-adjustable or knob-adjustable types. Reset time 150 msec. Plug-in type terminals and various enclosure styles available. Types CLA and CLC, fixed; Types CLF and CLH, resistor adjustable; Type CLB, adjustable knob with reference scale. Size, 1.531″ x 1.406″ x 1.906″ max. except CLB style, 1.531″ x 1.406″ x 2.782″ max. including knob. Weight, 3.5 oz.

P&B Number	Out-Line Dwg.	Time Delay, Seconds	Input Voltage	Ext. Resis. Ohms*	Net Each 1-9*
CLA41-70010	A	10	120 VAC	None	$19.95
CLF41-70010	B	.1 to 10	120 VAC	200K	21.70
CLH41-30010	B	.1 to 10	24 VDC	160K	21.70
CLB51-30010	B	.1 to 10	24 VAC	None	22.80
CLB51-70010	B	.1 to 10	120 VAC	None	23.05
CLB51-70120	B	1.2 to 120	120 VAC	None	24.45
CLF42-70010	B	.1 to 10	120 VAC	200K	21.70

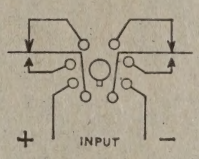
CUB SERIES KNOB-ADJUSTABLE RELAYS

Designed for delay on operate, DPDT relay and solid state delay circuit are assembled in a slightly taller case than other CU types. Timing intervals adjustable over 1 to 10 and 1 to 120 seconds. Repeatability ±3%. For 120 VAC operation. Size, 1.531″ x 1.406″ x 2.782″ max. including knob. Weight, 3.5 oz.

CUB51-70010	A	1 to 10	120 VAC	None	$18.75
CUB51-70120	A	1 to 120	120 VAC	None	20.55

*Value of external resistor required for maximum delay time.

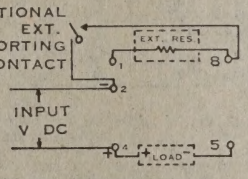
CR SERIES
KNOB-ADJUSTABLE RECYCLE TIMER



CR series recycle timer has two independent control knobs for adjusting On and Off delays from 1.8 to 180 seconds. The recycling sequence is initiated by applying power to the terminals. **Size:** 2.375″ x 3.50″ x 1.750″.

P&B Number	Time Delay Seconds	Input Voltage	Net Each, Lots of 1-9	10-24	25-49	50-99
CRB48-30180	1.8 to 180	24 VAC	$49.65	$47.17	$44.69	$39.72
CRB48-70180	1.8 to 180	120 VAC	49.65	47.17	44.69	39.72
CRD48-30180	1.8 to 180	24 VDC	43.40	41.23	39.06	34.72

JT SERIES
HERMETICALLY SEALED ADJUSTABLE RELAYS



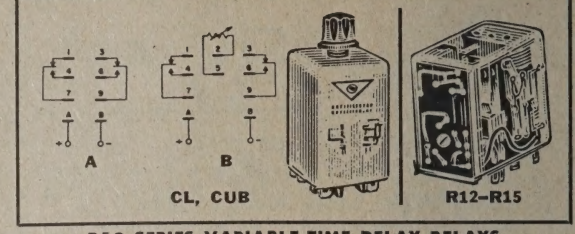
JT series measures .350″ high and is hermetically sealed in epoxy. Reset is accomplished by removal of input voltage. **Size:** 1.250″ x 1.300″ x .350″.

P&B Number	Time Delay Seconds	Input Voltage	Ext. Resis., Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99
JTC55-30010	10	24 VDC	None	$11.20	$10.64	$10.08	$8.96
JTH55-30010	.1 to 10	24 VDC	887K	12.10	11.50	10.89	9.68

CS SERIES SOLID STATE VOLTAGE SENSORS

CS series voltage sensor is designed to energize and de-energize its internal relay at predetermined voltages. Desired values are either fixed or knob adjustable. Fixed sensors are factory set—cannot be changed; knob-adjustable versions allow the levels to be varied over a selected range. Voltage sensors consist of sensing circuit that turns on or off a solid state switch, energizing or de-energizing the internal relay. Both the solid state switch and DPDT relay are enclosed in molded nylon dust cover. Reverse polarity protection on DC types. Octal mounting plug. **Load Switching Relay:** 2 Form C (DPDT) rated 10 amps at 28 VDC resistive or 120 VAC resistive. **Temp. Range:** −10° C to +55° C. **Temp. Coefficient:** 0.16%/° C max. **Repeatability:** ±1% max. **Size:** 2.406″ x 1.781″ x 4.035″ (including knob and mounting plug). Weight, 8 oz. approx.

P&B Number	Pick-Up Volts	Drop-Out Volts	Type Voltage	Net 1-9*
CSJ38-30010	20–30	18–28	AC (50/60 Hz)	$34.65
CSJ38-70010	92–140	90–138	AC (50/60 Hz)	37.85
CSL38-30010	20–30	18–28	DC	30.25
CSL38-60010	92–140	90–138	DC	34.65
CSJ38-71010	105	90–103	AC (50/60 Hz)	33.55
CSL38-31010	22	16–21	DC	26.55



R12 SERIES VARIABLE TIME DELAY RELAYS

Small size DPDT with 5 amp contacts and silicon transistor circuitry. Delay time .1 to 120 seconds in three ranges; no false operation. Critical timing capacitor meets military specifications; high resolution 15-turn potentiometer. Size, 1.508″ x .735″ x 1.187″.

P&B Number R12-	Delay Sec	Coil Volts DC	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999*
2-12-X2-E1	0.1 to	12	$22.50	$20.25	$18.00	$15.75	$14.63
2-24-X2-E1	2.0	24	22.50	20.25	18.00	15.75	14.63
30-12-X2-E1	1.0 to	12	23.10	20.79	18.48	16.17	15.02
30-24-X2-E1	30	24	23.10	20.79	18.48	16.17	15.02
120-12-X2-E1	5.0 to	12	24.95	22.46	19.96	17.47	16.22
120-24-X2-E1	120	24	24.95	22.46	19.96	17.47	16.22

R13, 14, 15 & 16 FIXED AND ADJUSTABLE RELAYS

R13 SERIES
Fixed time delay relays available in 6 timing ranges from 1 to 300 seconds. Operate with 180 mW of DC power. Designed for delay on operate and fast recycle time. Shock rated at 10 g. operating and 25 g. mechanical.

R14 SERIES
Fixed or externally adjustable time delay relay available in 6 timing ranges from 0.25 to 600 seconds. The coil is polarity protected. Shock rated at 15 g. operating and 30 g. mechanical. R14A is an interval timer.

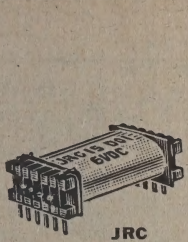
R15 SERIES
AC operated, fixed or externally adjustable time delay relay available in five timing ranges from 0.5 to 300 seconds. Shock rated at 15 g. operating and 30 g. mechanical. R15A is an interval timer.

R16 SERIES
Available in the timing range from 2 to 30 seconds. Relay and timing components are mounted on glass epoxy circuit board having quick-connect termination.

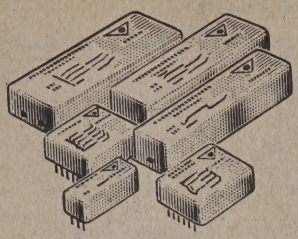
P&B Number	Delay Sec.	Input Volts	Contacts*	Net Ea. 1-9
R13-1F-24-X2-E1	1.0	24 DC	DPDT-5A	$13.45
R13-1F-24-X4-E1	1.0	24 DC	4PDT-5A	15.10
R13-5F-24-X2-E1	5.0	24 DC	DPDT-5A	13.45
R13-5F-24-X4-E1	5.0	24 DC	4PDT-5A	15.10
R13-10F-12-X4-E1	10.0	12 DC	4PDT-5A	15.10
R13-10F-24-X2-E1	10.0	24 DC	DPDT-5A	13.45
R13-10F-24-X4-E1	10.0	24 DC	4PDT-5A	15.10
R13-60F-48-Y2-E1	60.0	48 DC	DPDT-2A	15.15
R13-120F-12-X4-E1	120.0	12 DC	4PDT-5A	17.65
R13-300F-12-X4-E1	300.0	12 DC	4PDT-5A	18.85
R13-300F-24-X4-E1	300.0	24 DC	4PDT-5A	18.85
R14-2A-12-X2-E1	.25–2	12 DC	DPDT-5A	18.05
R14-2A-12-X4-E1	.25–2	12 DC	4PDT-5A	19.50
R14-30A-24-X2-E1	.5–30	24 DC	DPDT-5A	18.95
R14-30A-24-X4-E1	.5–30	24 DC	4PDT-5A	20.45
R14-120A-24-X2-E1	5–120	24 DC	DPDT-5A	19.90
R14-120A-24-X4-E1	5–120	24 DC	4PDT-5A	21.30
R14A-30A-24-X4-E1	.5–30	24 DC	4PDT-5A	21.55
R14A-300A-12-X4-E1	10–300	12 DC	4PDT-5A	23.70
R14A-300A-24-X4-E1	10–300	24 DC	4PDT-5A	23.70
R14A-600A-24-X4-E1	30–600	24 DC	4PDT-5A	24.90
R15-10A-24-W2-E1	.5–10	24 DC	DPDT-10A	20.50
R15-10A-24-W4-E1	.5–10	24 DC	4PDT-10A	22.40
R15-30A-115-X2-E1	.5–30	115 AC	DPDT-5A	20.55
R15-30A-115-X4-E1	.5–30	115 AC	4PDT-5A	21.90
R15-60A-115-Y2-E1	1–60	115 AC	DPDT-2A	20.40
R15-60A-115-Y4-E1	1–60	115 AC	4PDT-2A	21.60
R15A-30A-24-X4-E1	.5–30	24 DC	4PDT-5A	23.00
R15A-300A-115-X4-E1	10–300	115 AC	4PDT-5A	26.10
R16-30A-24A-Y2	2–30	24 AC	DPDT-2A	10.80
R16-30A-120A-Y2	2–30	120 AC	DPDT-2A	10.80

Write for quantity discount prices. *At 28 VDC or 115 VAC, resistive.

★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P&B PAGE FOR ACCESSORIES)

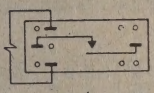


JRC

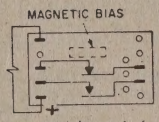


JR, JRL and JRM

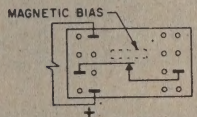
BOTTOM VIEW



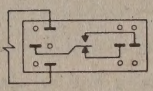
FORM A (SPST, NO)



FORM C (A+B) (SPDT)

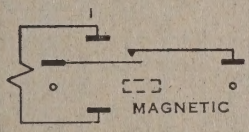


FORM B (SPST, NC)

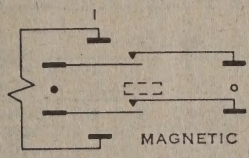


FORM C (SPDT)

JR and JRM Series



JRL 1A
SINGLE WOUND LATCH



JRL 2A
SINGLE WOUND LATCH

JRL Series

JR AND JRM SERIES DRY REED RELAYS

Fast response, reliable performance, high sensitivity and long life are characteristic of JR standard and JRM miniature relays. Specially suited for data processing applications, computer equipment, logic circuitry and various other sophisticated control circuits. Both JR and JRM relays have reed switches with either Form A (SPST-NO) or Form C (SPDT) contact configuration. Biasing with a permanent magnet changes Form A to a Form B (SPST-NC); arrangement requires that coil polarity is observed. Combining one Form A with one Form B results in a single Form C (SPDT) break-before-make. A "true" Form C (SPDT) uses a reed switch with two stationary and one movable contact (movable contact is normally closed until the coil is energized). **Size:** 2.718" l. x 0.656" h. max. (JR); 1.125" l. x 0.468" h. max. (JRM).

JR STANDARD SERIES				JRM MINIATURE SERIES			
Cavity		Coil Power/ Capsule	Wt., Oz.	Cavity		Coil Power/ Capsule	Wt., Oz.
No.	Width, Inches			No.	Width, Inches		
1	.687	240 mW	1.5	1	.437	180 mW	.366
2	.890	360 mW	2.0	2	.562	275 mW	.395
3	1.094	720 mW	2.5	3	.703	420 mW	.530
4	1.297	960 mW	3.0	4	.813	540 mW	.620
5	1.516	1.5 W	3.5	5	.968	720 mW	.781

JR STANDARD SERIES

P&B No.	No. Cavities	Coil Nom. V	Coil Res. Ohms	Contacts Arrangement	Contacts Rating	Net Each, Lots of* 1-9	10-24	25-99
JR1000	1	6	150	1A	15 W	$ 4.20	$3.13	$2.67
JR1001	2	6	100	2A	15 W	5.65	4.21	3.59
JR1020	1	6	150	1A	50 W	5.65	4.21	3.59
JR1040	1	6	150	1C*	10 W	9.45	7.05	6.00
JR1041	2	6	100	2C*	10 W	10.15	7.57	6.45
JR1005	1	12	600	1A	15 W	4.40	3.28	2.79
JR1006	2	12	400	2A	15 W	5.70	4.25	3.62
JR1008	4	12	150	4A	15 W	8.80	6.56	5.59
JR1025	1	12	600	1A	50 W	5.85	4.36	3.71
JR1045	1	12	600	1C*	10 W	9.45	7.05	6.00
JR1046	2	12	400	2C*	10 W	12.40	9.25	7.87
JR1063	2	12	400	1B	15 W	5.40	4.03	3.43
JR1086	3	12	200	1A+1B	15 W	7.55	5.63	4.79
JR1010	1	24	2400	1A	15 W	4.80	3.58	3.05
JR1011	2	24	1600	2A	15 W	5.95	4.44	3.78
JR1013	4	24	600	4A	15 W	8.95	6.68	5.68
JR1030	1	24	2400	1A	50 W	6.25	4.66	3.97
JR1031	2	24	1600	2A	50 W	8.85	6.60	5.62
JR1050	1	24	2400	1C*	10 W	9.40	7.01	5.97
JR1051	2	24	1600	2C*	10 W	10.50	7.83	6.67
JR1066	2	24	1600	1B	15 W	5.85	4.36	3.71
JR1088	3	24	800	1A+1B	15 W	7.70	5.74	4.89

*True Form C.

JRM MINIATURE SERIES

P&B No.	No. Cavities	Coil Nom. V	Coil Res. Ohms	Contacts Arrangement	Contacts Rating	Net Each, Lots of* 1-9	10-24	25-99
JRM1000	1	6	200	1A	10 W	$ 4.15	$3.10	$2.64
JRM1001	2	6	130	2A	10 W	5.95	4.44	3.78
JRM1003	4	6	67	4A	10 W	9.45	7.05	6.00
JRM1036	2	6	130	1B	10 W	5.30	3.95	3.37
JRM1048	3	6	86	1A+1B	10 W	6.75	5.04	4.29
JRM1006	1	12	800	1A	10 W	4.20	3.13	2.67
JRM1007	2	12	520	2A	10 W	5.95	4.44	3.78
JRM1009	4	12	268	4A	10 W	9.45	7.05	6.00
JRM1040	2	12	520	1B	10 W	5.35	3.99	3.40
JRM1041	3	12	344	2B	10 W	7.10	5.30	4.51
JRM1050	3	12	344	1A+1B	10 W	6.80	5.07	4.32
JRM1051	5	12	200	2A+2B	10 W	10.80	8.06	6.86
JRM1012	1	24	3200	1A	10 W	4.65	3.47	2.95
JRM1013	2	24	2080	2A	10 W	6.15	4.59	3.91
JRM1015	4	24	1072	4A	10 W	9.55	7.12	6.06
JRM1044	2	24	2080	1B	10 W	5.45	4.07	3.46
JRM1045	3	24	1376	2B	10 W	7.25	5.41	4.60
JRM1052	3	24	1376	1A+1B	10 W	6.90	5.15	4.38
JRM1053	5	24	800	2A+2B	10 W	10.80	8.06	6.86

MINIATURE OPEN STYLE DRY REED RELAYS

JRC SERIES

PC terminals arranged on 0.100" x 1.00" grid layout. Rhodium contacts rated 10 watts max.; 0.5 amp max. and 125 V max. for DC resistive loads. Operate speed of 1 msec typ. including bounce for pick-up; 0.5 msec for drop-out. Contact protection is recommended to assure long operating life. **Size:** 1.14" l. x .360" h. max. Wt., 0.3 to 1.0 oz. approx.

P&B No.*	Cavity No.	Cavity Width, In.	Coil Nom. V	Coil Resis. Ohms	Contact Arrangement	Net Ea., Lots of* 1-24	25-49	50-74
JRC1DA1	1	.375	6	240	1A	$5.00	$4.50	$4.25
			12	960	1A	5.00	4.50	4.25
			24	3840	1A	5.00	4.50	4.25
JRC2DB1	2	.460	12	625	1B	5.90	5.31	5.02
			24	2500	1B	5.90	5.31	5.02
JRC7DB1	2	.460	6	155	2A	6.05	5.45	5.14
			12	625	2A	6.05	5.45	5.14
			24	2500	2A	6.05	5.45	5.14
JRC15DD1	4	.660	12	320	4A	8.45	7.61	7.18
			24	1280	4A	8.45	7.61	7.18
JRC50DD1	4	.660	12	320	1A+1B	7.10	6.39	6.04
			24	1280	1A+1B	7.10	6.39	6.04

*Specify coil voltage when ordering.

JRL SERIES DRY REED LATCHING RELAYS

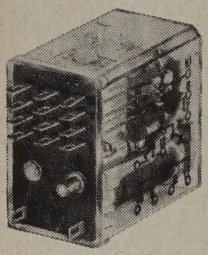
Reliable bi-stable relays designed for memory work. Single-wound coils switch contacts on polarity reversal. Needs no coil current to maintain contact in either position. Can be mounted on PC boards in any position; not position sensitive. **Contact Arrangement:** 1 Form A and 2 Form A rated 15 watts resistive. **Operate Time:** 1.0 msec at 25° C including bounce. **Size:** Same as JR standard series above. Weight, same as JR standard series above.

P&B No.	No. Cavities	Coil Nom. VDC	Coil Res. Ohms	Contacts Arrangement	Contacts Rating	Net Each, Lots of* 1-9	10-24	25-99
JRL1000	2	6	400	1 A	15 W	$5.90	$4.40	$3.75
JRL1001	2	12	1600	1 A	15 W	6.05	4.51	3.84
JRL1002	2	24	6400	1 A	15 W	6.20	4.63	3.94
JRL1012	3	6	300	2 A	15 W	7.70	5.74	4.89
JRL1013	3	12	1200	2 A	15 W	7.80	5.82	4.95

★LARGER QUANTITY PRICES ON REQUEST

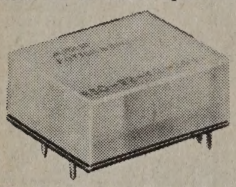
GENERAL PURPOSE RELAYS

R10S Series relays are very sensitive, current-actuated DC relays for direct drive by CMOS, DTL, TTL, ECL, and HTL. U.L. and CSA approvals are pending. Available in solder (E1) and PC board (E2) terminations. Weight is .8 to 1.4 oz.



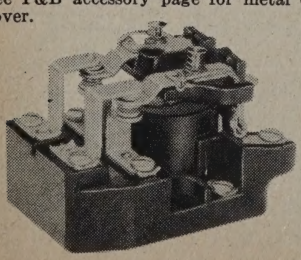
R10-E6 Series is a standard R10-E1 (solder terminals) fitted with a bracket on the narrow side of the case for chassis mounting. The bracket has one #6–32 x .375″ stud and one locating tab on .437″ centers.

R50-Y1 and Y2 Series relays seat .425″ high for use on printed-circuit boards spaced as close as 0.6″ center-to-center. Pickup is at approximately 75% of rated coil voltage; dropout is 5% minimum. All models have a molded polyester case and gold-plated PC terminals spaced on a .1″ grid.



CG Series: Relays combined with a CMOS integrated circuit for delay on operate or interval on. Relay has DPDT contacts rated 10A at 120VAC or 5A at 240VAC resistive. Knob adjustable delay time provided by the IC network is not normally affected by voltage transients encountered in industrial applications. Contacts will not transfer if timing cycle is momentarily interrupted. Weight is approximately 8 oz. Measures 1.781″ x 2.406″ x 2.937″ h.

PRD Series relays are interchangeable with the PR Series relays. Same size and same mounting holes. Improved design allows use of power screwdrivers on terminals. All models are U.L. listed—CSA listing is pending. Two .188″ dia. mounting holes on 1.875″ centers. PRDA11AYA has auxiliary miniature snap-action switch with SPDT silver contacts rated 5A at 120VAC. See P&B accessory page for metal dust cover.



SENSITIVE RELAY—1 AMP TYP. (2 AMPS MAX.)

P&B Number	Contacts	Coil	Net Each 1-9	10-49	50-99	100-499
R10S-E1-Y1-JJ1.0K	SPDT	1.0K, 2.3 mA	$4.60	$4.14	$3.68	$3.22
-JJ2.5K	SPDT	2.5K, 1.4 mA	4.60	4.14	3.68	3.22
-JJ5.0K	SPDT	5.0K, 1.0 mA	5.60	5.04	4.48	3.92
R10S-E1-Y2-JJ1.0K	2PDT	1.0K, 3.1 mA	4.60	4.14	3.68	3.22
-JJ2.5K	2PDT	2.5K, 2.0 mA	4.60	4.14	3.68	3.22
-JJ5.0K	2PDT	5.0K, 1.4 mA	5.60	5.04	4.48	3.92
R10S-E1-Y4-JJ1.0K	4PDT	1.0K, 4.5 mA	5.00	4.50	4.00	3.50
R10S-E2-Y1-JJ1.0K	SPDT	1.0K, 2.3 mA	4.60	4.14	3.68	3.22
-JJ2.5K	SPDT	2.5K, 1.4 mA	4.60	4.14	3.68	3.22
-JJ5.0K	SPDT	5.0K, 1.0 mA	5.60	5.04	4.48	3.92
R10S-E2-X2-JJ2.5K	2PDT	2.5K, 2.0 mA	4.60	4.14	3.68	3.22
R10S-E2-Y4-JJ1.0K	4PDT	1.0K, 4.5 mA	5.00	4.50	4.00	3.50

5 AMPS TYP. (7.5 AMPS MAX.)

R10-E6-X2-V52	2PDT	6 VDC	$4.40	$3.96	$3.52	$3.08
-V185	2PDT	12 VDC	4.40	3.96	3.52	3.08
-V700	2PDT	24 VDC	4.40	3.96	3.52	3.08
-115V	2PDT	115 VAC	7.00	6.30	5.60	4.90
-X4-V185	4PDT	12 VDC	4.95	4.46	3.96	3.47
-V700	4PDT	24 VDC	4.95	4.46	3.96	3.47
-115V	4PDT	115 VAC	8.45	7.61	6.76	5.92

2 AMPS TYP. (3 AMPS MAX.)

R10-E6-Y2-V185	2PDT	12 VDC	$4.25	$3.83	$3.40	$2.98
-V700	2PDT	24 VDC	4.25	3.83	3.40	2.98
-Y4-V185	4PDT	12 VDC	4.65	4.19	3.72	3.26
-V700	4PDT	24 VDC	4.65	4.19	3.72	3.26
R50-E2-Y1	SPDT	6, 12 VDC	$2.80	$2.52	$2.24	$1.96
		24 VDC	2.95	2.66	2.36	2.07
R50-E2-Y2	DPDT	5, 6, 12 VDC	3.70	3.33	2.96	2.59
		24 VDC	3.80	3.42	3.04	2.66
R50-E2-X1	SPDT	5, 6, 12 VDC	3.30	2.97	2.64	2.31
		24 VDC	3.45	3.11	2.76	2.42
R50S-E2-Y1	SPDT	5, 6, 12 VDC	2.70	2.43	2.14	1.86
		24 VDC	2.85	2.57	2.26	1.97
R50S-E2-Y2	DPDT	5, 6, 12 VDC	3.50	3.15	2.77	2.41
		24 VDC	3.60	3.24	2.85	2.47

DELAY ON OPERATE

P&B Number	Delay Minutes	Input Volts	Net Each 1-9	10-24	25-49	50-99
CGD38-30010M	1–10	24 DC	$55.40	$53.63	$49.86	$44.32
CGD38-30050M	5–50	24 DC	55.40	52.63	49.86	44.32
CGD38-30100M	10–100	24 DC	55.40	52.63	49.86	44.32

INTERVAL ON

CGB38-79010M	1–10	120 AC	$58.40	$55.48	$52.56	$46.72
CGB38-79050M	5–50	120 AC	58.40	55.48	52.56	46.72
CGB38-79100M	10–100	120 AC	58.40	55.48	52.56	46.72
CGD38-39010M	1–10	24 DC	55.40	52.63	49.86	44.32
CGD38-39050M	5–50	24 DC	55.40	52.63	49.86	44.32
CGD38-39100M	10–100	24 DC	55.40	52.63	49.86	44.32

AC RELAYS

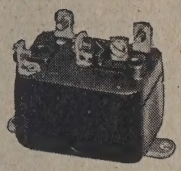
P&B Number	Contacts	6, 12, 24, or 120 VAC Net Each 1-24	25-50	51-99	100-249	240 VAC Net Each 1-24	25-50	51-99	100-249
PRD1AYO*	SPST-NO	$5.60	$5.32	$5.04	$4.20	.....	.....	.....	.....
PRD3AYO§	SPST-NO-DM	5.70	5.42	5.13	4.28	$6.30	$5.99	$5.67	$4.73
PRD5AYO§	SPDT	5.95	5.65	5.36	4.46	6.60	6.27	5.94	4.95
PRD7AGO#	DPST-NO	7.05	6.70	6.35	5.29	.....	.....	.....	.....
PRD7AYO§•	DPST-NO	6.70	6.37	6.03	5.03	7.30	6.94	6.57	5.48
PRD11AGO#	DPDT	9.20	8.74	8.28	6.90	.....	.....	.....	.....
PRD11AYO§	DPDT	8.80	8.36	7.92	6.60	9.40	8.93	8.46	7.05
PRDA11AYA†	DPDT & SPDT	12.45	11.83	11.21	9.34	13.10	12.45	11.79	9.83

DC RELAYS

		6, 12, or 24 VDC				110 VDC			
PRD3DYO	SPST-NO-DM	$5.70	$5.42	$5.13	$4.28	$6.55	$6.22	$5.90	$4.91
PRD5DYO	SPDT	5.95	5.65	5.36	4.46	6.80	6.46	6.12	5.10
PRD7DYO	DPST-NO	6.75	6.41	6.08	5.06	9.20	8.74	8.28	6.90
PRD11DYO	DPDT	8.80	8.36	7.92	6.60	9.60	9.12	8.64	7.20

*24 VAC & 120 VAC models only. †No 6 VAC model. §208 VAC model also available; same price as 240 VAC model. #120 VAC model only. •Also available as 480 VAC model; request prices.

AC-DC Relays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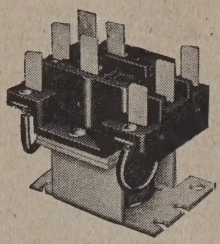
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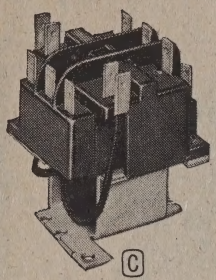
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AC GENERAL PURPOSE RELAYS

Operate in any position. Coils are for 60 Hz operation. Ratings listed are continuous unless noted otherwise. **Breakdown Voltage:** 1500 V rms, 60 Hz, opposite polarity or to ground; 1000 V rms, 60 Hz, open contacts same polarity. **Electrical Life:** 100,000 operations at rated load.

Ⓐ **Type 84**—Totally enclosed type with silver alloy contacts rated at 125/250 VAC. Models 84-922–928 rated 3 amps at 125 VAC or 1.5 amps at 250 VAC pilot duty. All others: SPNO—16 amps, resistive; 8 amps (25 amps inrush) inductive. SPDT—8 amps resistive; 8 amps (18 amps inrush) inductive. Models 84-901–908 have screw terminals; models 84-912–928 have ¼" tab terminals. **Size:** 2⅛" x 1⅝" x 1½" overall. Mounting hardware included in boxed quantity only.

Part No.	Contacts	Coil V (50/60 Hz)	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
84-901	SPNO	6	$3.75	$3.38	$3.01	$2.65	$2.43	$1.69
84-902	SPNO	24	3.67	3.31	2.95	2.59	2.38	1.66
84-903	SPNO	120	3.80	3.43	3.05	2.68	2.46	1.71
84-904	SPNO	230/240	4.49	4.05	3.61	3.17	2.90	2.03
84-905	SPDT	6	4.18	3.77	3.36	2.95	2.71	1.89
84-906	SPDT	24	4.18	3.77	3.36	2.95	2.71	1.89
84-907	SPDT	120	4.51	4.07	3.63	3.19	2.92	2.04
84-908	SPDT	230/240	4.90	4.42	3.94	3.46	3.17	2.20
84-912	SPNO	24	3.67	3.31	2.95	2.59	2.38	1.66
84-913	SPNO	120	4.03	3.63	3.24	2.84	2.61	1.82
84-914	SPNO	230/240	4.41	3.98	3.55	3.11	2.85	1.99
84-916	SPDT	24	4.18	3.77	3.36	2.95	2.71	1.89
84-917	SPDT	120	4.41	3.98	3.55	3.11	2.85	1.99
84-918	SPDT	230/240	4.79	4.32	3.85	3.38	3.10	2.15
84-922	SPNO	24	3.67	3.31	2.95	2.59	2.38	1.66
84-923	SPNO	120	4.03	3.63	3.24	2.84	2.61	1.82
84-924	SPNO	230/240	4.41	3.98	3.55	3.11	2.85	1.99
84-926	SPDT	24	4.05	3.66	3.26	2.86	2.62	1.83
84-927	SPDT	120	4.41	3.98	3.55	3.11	2.85	1.99
84-928	SPDT	230/240	4.90	4.42	3.94	3.46	3.17	2.20

Ⓑ **Type 91**—Solenoid action type with quick-connect terminals; operates in any position. DPDT contact arrangement. **Power Rating (A):** Enclosed fine silver contacts rated 15 amps, 277 VAC, max., resistive; 12 amps (60 amps inrush), 125 VAC or 6 amps (35 amps inrush), 250 VAC, inductive. **Pilot Rating (B):** Gold alloy crossbar contacts rated 3 amps, 277 VAC, max., resistive; 125 VA, 1/10 hp, 125/250 VAC, inductive. **Number of Operations per Minute:** 6. **Size:** 2⅛" x 1⅞" x 2⅜". Quick-connect wiring terminals included in boxed quantity only.

Part Number	Coil V‡	Circuit Rating #1*	#2†	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
91-901	24	A	A	$6.86	$6.17	$5.48	$4.80	$3.11	$2.74
91-902	120	A	A	7.11	6.40	5.69	4.98	3.22	2.84
91-903	230§	A	A	7.32	6.59	5.86	5.12	3.32	2.93
91-904	24	A	B	6.66	5.99	5.33	4.66	3.02	2.66
91-905	120	A	B	6.23	5.60	4.98	4.36	2.82	2.49
91-906	230§	A	B	7.17	6.45	5.74	5.02	3.25	2.87
91-907	24	B	B	6.66	5.99	5.33	4.66	3.02	2.66
91-908	120	B	B	7.76	6.98	6.20	5.43	3.52	3.10
91-909	230§	B	B	7.70	6.93	6.16	5.39	3.49	3.08

*Three terminals at the mounting hole side. †Three terminals at the coil terminal side. ‡50/60 Hz. §230/240 volts.

TYPE 91 QUICK-CONNECT SOCKET

Polarized to prevent improper assembly.

Part No. 91-180-1—Net Each, Lots of 1–24.....**$0.85**
25–49.....**$0.76**; 50–99.....**$0.68**; 100–249..... **.59**
250–499.....**$0.51**; 500–999..... **.42**

AC GENERAL PURPOSE RELAYS (Cont'd)

Ⓒ **Type 92**—Solenoid action type with quick-connect terminals; operates in any position. 3PDT contact arrangement. **Power Rating (A):** Fine silver enclosed contacts rated 15 amps, 277 VAC, max., resistive; 12 amps (60 amps inrush), 125 VAC or 6 amps (35 amps inrush) 250 VAC, inductive. **Pilot Rating (B):** Gold alloy crossbar contacts rated 3 amps, 277 VAC, max., resistive; 125 VA, 1/10 hp, 125/250 VAC, inductive. **Size:** 2⅜" x 2⅜" x 2¾". Quick-connect wiring terminals included in boxed quantity only.

Part Number	Coil V†	Circuit Rating #1	#2	#3	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
92-901	24	A	A	A	$8.63	$7.76	$6.90	$6.04	$3.91	$3.45
92-902	120	A	A	A	8.79	7.91	7.03	6.15	3.98	3.52
92-903	230*	A	A	A	9.14	8.22	7.31	6.39	4.14	3.65
92-904	24	A	B	A	8.42	7.57	6.73	5.89	3.81	3.37
92-905	120	A	B	A	8.04	7.24	6.43	5.63	3.64	3.22
92-906	230*	A	B	A	8.97	8.07	7.18	6.28	4.07	3.59

*230/240 volts. †50/60 Hz.

AC POWER RELAYS

Ⓓ **Type 129**—Totally enclosed; silver alloy contacts rated 25 amps resistive or 18 amps inductive at 250 VAC max., 1 hp at 125 V or 2 hp at 250 V. **Size:** 2⅜" x 1⅞" x 1⅞" overall.

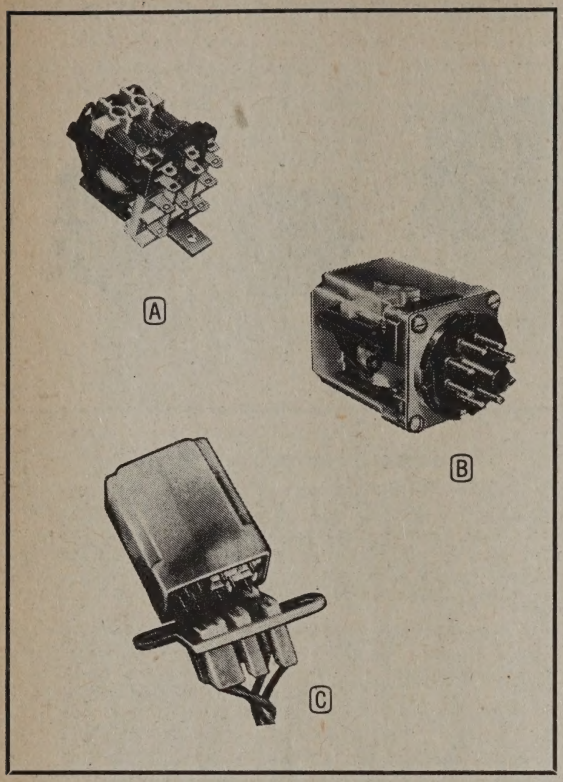
Part Number	Contacts	Coil V‡	Net Each, Lots of 1-24	25-94	50-99	100-249	250-499	500-999
129-901	SPNO	6	$5.29	$4.60	$4.14	$3.68	$3.22	$2.65
129-902	SPNO	24	5.29	4.60	4.14	3.68	3.22	2.65
129-903	SPNO	120	5.59	4.86	4.37	3.89	3.40	2.79
129-904	SPNO	208*	5.93	5.16	4.64	4.12	3.61	2.97
129-905†	SPDT	6	6.23	5.42	4.88	4.34	3.79	3.12
129-906†	SPDT	24	6.07	5.28	4.75	4.23	3.70	3.04
129-907†	SPDT	120	6.39	5.56	5.00	4.44	3.89	3.20
129-908†	SPDT	208*	6.76	5.88	5.29	4.70	4.12	3.38
129-911§	SPNO	24	5.15	4.48	4.03	3.59	3.14	2.58
129-912§	SPNO	120	5.52	4.80	4.32	3.84	3.36	2.76
129-913§	SPNO	208*	5.87	5.10	4.59	4.08	3.57	2.93
129-914†§	SPDT	24	6.16	5.36	4.82	4.29	3.75	3.08
129-915†§	SPDT	120	6.46	5.62	5.06	4.50	3.93	3.23
129-916†§	SPDT	208*	6.69	5.82	5.24	4.65	4.07	3.34

*208/230 volts. †All contact terminals must be wired to same polarity. ‡50/60 Hz. §Quick-connect ¼" tab terminals.

Ⓔ **Type 129AR Add-A-Relay**—Same as Type 129 except has aluminum diecast base and bushing; rated 1 hp at 120 V, 1½ hp at 250 V. High impact phenolic enclosure; 8" color-coded leads. **Size:** 2¾" x 2⅝" x 3⅛". Mounts in ½" dia. knock-out. Mounting hardware supplied. Meets standard code requirements. UL white card Listed.

Part Number	Contacts	Coil V‡	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
129AR-901	SPNO	24	$8.05	$7.00	$6.30	$5.60	$4.90	$4.02
129AR-902	SPNO	120	8.19	7.12	6.41	5.70	4.98	4.09
129AR-903	SPNO	208*	8.56	7.44	6.70	5.95	5.21	4.28
129AR-904†	SPDT	24	8.53	7.42	6.68	5.94	5.19	4.27
129AR-905†	SPDT	120	8.40	7.30	6.57	5.84	5.11	4.20
129AR-906†	SPDT	208*	9.18	7.98	7.18	6.38	5.60	4.60

*208/230 volts. †All contact terminals must be wired to same polarity. ‡50/60 Hz. §Quick-connect ¼" tab terminals.



AC-DC GENERAL PURPOSE RELAYS

Contact Rating: Button: Fine silver contacts rated ⅛ hp, inductive, 10 amps, resistive at 120 VAC; ⅛ hp, inductive, 5 amps resistive at 240 VAC. Crossbar: Gold alloy contacts rated 1/10 hp, inductive, 5 amps, resistive at 120 VAC; ⅛ hp, inductive, 3 amps, resistive, at 240 VAC. Both types rated 5 amps resistive at 28 VDC. **Breakdown Voltage:** 1500 V rms, 60 Hz, opposite polarity or to ground; 1000 V rms, 60 Hz, open contacts with same polarity. **Coil Rating:** 1.5 watts DC; 3.0 watts nominal AC (4 watts maximum, 4.5 watts inrush). **Pick-Up:** 75% DC, 85% AC. **Maximum Temperature:** 160° F ambient. **Electrical Life:** 100,000 operations at rated load. **Mechanical Life:** 10 million operations, no load (60 per minute).

OPEN TYPE SOLDER TERMINALS (FIG. A)

Designed for front mounting. Suitable also for single-hole screw or stud rear mounting. All terminals out front. One-piece molded bobbin and terminal board construction. Highly resistant to arc tracking. **Size:** 1 15/16" x 1 5/16" x 1 5/16".

WITH 10-AMP BUTTON CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93-904	24 VAC	SPDT	$4.34	$4.08	$3.91	$3.06	$2.38	$1.96
93-905	24 VAC	DPDT	5.02	4.73	4.53	3.55	2.76	2.27
93-906	24 VAC	3PDT	5.59	5.26	5.04	3.94	3.07	2.52
93-907	120 VAC	SPDT	4.34	4.08	3.91	3.06	2.38	1.96
93-908	120 VAC	DPDT	5.02	4.73	4.53	3.55	2.76	2.27
93-909	120 VAC	3PDT	5.59	5.26	5.04	3.94	3.07	2.52
93-910	208/240 VAC	SPDT	4.90	4.61	4.42	3.46	2.69	2.21
93-911	208/240 VAC	DPDT	5.61	5.28	5.06	3.96	3.08	2.53
93-912	208/240 VAC	3PDT	6.22	5.86	5.61	4.39	3.42	2.80
93-916	12 VDC	SPDT	4.34	4.08	3.91	3.06	2.38	1.96
93-917	12 VDC	DPDT	5.08	4.78	4.58	3.58	2.79	2.29
93-918	12 VDC	3PDT	5.66	5.33	5.11	4.00	3.11	2.55
93-919	24 VDC	SPDT	4.34	4.08	3.91	3.06	2.38	1.96
93-920	24 VDC	DPDT	5.02	4.73	4.53	3.55	2.76	2.27
93-921	24 VDC	3PDT	5.66	5.33	5.11	4.00	3.11	2.55

OPEN TYPE SOLDER TERMINALS (CONT'D)
WITH 5-AMP CROSSBAR CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93-934	24 VAC	SPDT	$4.74	$4.46	$4.28	$3.35	$2.60	$2.14
93-935	24 VAC	DPDT	5.25	4.94	4.74	3.71	2.88	2.37
93-936	24 VAC	3PDT	5.99	5.64	5.41	4.23	3.29	2.70
93-937	120 VAC	SPDT	4.44	4.18	4.00	3.13	2.44	2.00
93-938	120 VAC	DPDT	4.97	4.68	4.49	3.51	2.73	2.24
93-939	120 VAC	3PDT	5.69	5.35	5.13	4.01	3.12	2.57
93-940	208/240 VAC	SPDT	4.97	4.68	4.49	3.51	2.73	2.24
93-941	208/240 VAC	DPDT	5.84	5.50	5.27	4.12	3.21	2.63
93-942	208/240 VAC	3PDT	7.42	6.98	6.69	5.24	4.07	3.35
93-946	12 VDC	SPDT	4.74	4.46	4.28	3.35	2.60	2.14
93-947	12 VDC	DPDT	5.94	5.59	5.36	4.19	3.26	2.68
93-948	12 VDC	3PDT	6.86	6.46	6.19	4.84	3.77	3.10
93-949	24 VDC	SPDT	4.74	4.46	4.28	3.35	2.60	2.14
93-950	24 VDC	DPDT	5.94	5.59	5.36	4.19	3.26	2.68
93-951	24 VDC	3PDT	6.81	6.41	6.14	4.81	3.74	3.07

ENCLOSED TYPE PLUG-IN TERMINALS (FIG. B)

With 8-pin octal base for SPDT and DPDT poles; 11-pin base for 3PDT poles. **Size:** 2 1/8" x 1 7/16" x 1 9/16".

WITH 10-AMP BUTTON CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93P-904	24 VAC	SPDT	$5.28	$4.97	$4.76	$3.73	$2.90	$2.38
93P-905	24 VAC	DPDT	6.30	5.93	5.68	4.45	3.46	2.84
93P-906	24 VAC	3PDT	7.37	6.94	6.65	5.20	4.05	3.32
93P-907	120 VAC	SPDT	5.28	4.97	4.76	3.73	2.90	2.38
93P-908	120 VAC	DPDT	6.30	5.93	5.68	4.45	3.46	2.84
93P-909	120 VAC	3PDT	7.37	6.94	6.65	5.20	4.05	3.32
93P-910	208/240 VAC	SPDT	5.59	5.26	5.04	3.94	3.07	2.52
93P-911	208/240 VAC	DPDT	6.61	6.22	5.96	4.66	3.63	2.98
93P-912	208/240 VAC	3PDT	7.68	7.22	6.92	5.42	4.21	3.46
93P-916	12 VDC	SPDT	5.28	4.97	4.76	3.73	2.90	2.38
93P-917	12 VDC	DPDT	6.30	5.93	5.68	4.45	3.46	2.84
93P-918	12 VDC	3PDT	7.37	6.94	6.65	5.20	4.05	3.32
93P-919	24 VDC	SPDT	5.28	4.97	4.76	3.73	2.90	2.38
93P-920	24 VDC	DPDT	6.30	5.93	5.68	4.45	3.46	2.84
93P-921	24 VDC	3PDT	7.37	6.94	6.65	5.20	4.05	3.32

WITH 5-AMP CROSSBAR CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93P-934	24 VAC	SPDT	$5.69	$5.35	$5.13	$4.01	$3.12	$2.57
93P-935	24 VAC	DPDT	7.17	6.74	6.46	5.06	3.93	3.23
93P-936	24 VAC	3PDT	8.57	8.06	7.73	6.05	4.70	3.87
93P-937	120 VAC	SPDT	5.69	5.35	5.13	4.01	3.12	2.57
93P-938	120 VAC	DPDT	7.17	6.74	6.46	5.06	3.93	3.23
93P-939	120 VAC	3PDT	8.57	8.06	7.73	6.05	4.70	3.87
93P-940	208/240 VAC	SPDT	5.99	5.64	5.41	4.23	3.29	2.70
93P-941	208/240 VAC	DPDT	7.47	7.03	6.74	5.27	4.10	3.37
93P-942	208/240 VAC	3PDT	8.87	8.35	8.00	6.26	4.87	4.00
93P-946	12 VDC	SPDT	5.69	5.35	5.13	4.01	3.12	2.57
93P-947	12 VDC	DPDT	7.17	6.74	6.46	5.06	3.93	3.23
93P-948	12 VDC	3PDT	8.57	8.06	7.73	6.05	4.70	3.87
93P-949	24 VDC	SPDT	5.69	5.35	5.13	4.01	3.12	2.57
93P-950	24 VDC	DPDT	7.17	6.74	6.46	5.06	3.93	3.23
93P-951	24 VDC	3PDT	8.57	8.06	7.73	6.05	4.70	3.87

OPEN TYPE PRINTED CIRCUIT RELAYS

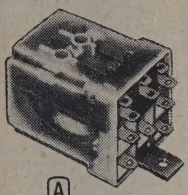
With 5-amp crossbar contacts. Similar in appearance to solder terminal type (Fig. A) but with printed circuit terminals. May be controlled by SCR, providing firing angle is no more than 10°. **Size:** 1 15/16" x 1 5/16" x 1 5/16".

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93-964	24 VAC	SPDT	$4.44	$4.18	$4.00	$3.13	$2.44	$2.00
93-965	24 VAC	DPDT	5.30	4.99	4.78	3.74	2.91	2.40
93-966	24 VAC	3PDT	6.04	5.69	5.45	4.27	3.32	2.72
93-967	120 VAC	SPDT	4.74	4.46	4.28	3.35	2.60	2.14
93-968	120 VAC	DPDT	5.30	4.99	4.78	3.74	2.91	2.40
93-969	120 VAC	3PDT	6.04	5.69	5.45	4.27	3.32	2.72
93-976	12 VDC	SPDT	4.74	4.46	4.28	3.35	2.60	2.14
93-977	12 VDC	DPDT	5.30	4.99	4.78	3.74	2.91	2.40
93-978	12 VDC	3PDT	6.89	6.48	6.21	4.86	3.78	3.11
93-979	24 VDC	SPDT	4.44	4.18	4.00	3.13	2.44	2.00
93-980	24 VDC	DPDT	5.97	5.62	5.38	4.21	3.28	2.69
93-981	24 VDC	3PDT	6.89	6.48	6.21	4.86	3.78	3.11

TYPE 93 RELAY RECEPTACLE (FIG. C)

Receptacle for Type 93 solder terminal, printed circuit, 8 and 11 pin plug-in and quick connect relays.
Part No. 93-185-1—Net Each, Lots of 1–24 . . . . . **$0.85**
25–49 . . . . **$0.76**; 50–99 . . . . **$0.68**; 100–249 . . . . . **.59**
250–499 . . . . . **$0.51**; 500–999 . . . . . **.42**

SEE FOLLOWING PAGE FOR QUICK-CONNECT TYPE ENCLOSED AC-DC GENERAL PURPOSE RELAYS



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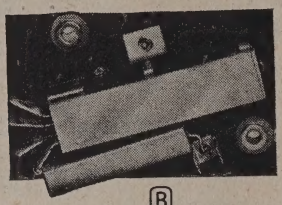

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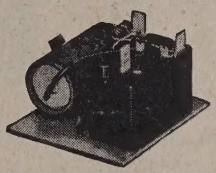

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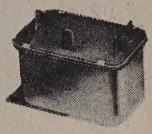

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AC-DC GENERAL PURPOSE RELAYS (CONT'D)

ENCLOSED TYPE QUICK-CONNECT TERMINALS (FIG. A)

Enclosed relay designed for front mounting, or polarized mounting in Type 93-185-1 socket (listed on previous page). Quick-connect .20″ x .187″ terminals. Hi-impact case. **Size:** 2⅛″ x 1 7/16″ x 1 9/16″.

WITH 10-AMP BUTTON CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93Q-904	24 VAC	SPDT	$5.20	$4.90	$4.69	$3.67	$2.86	$2.35
93Q-905	24 VAC	DPDT	5.92	5.57	5.34	4.18	3.25	2.67
93Q-906	24 VAC	3PDT	6.48	6.10	5.84	4.57	3.56	2.92
93Q-907	120 VAC	SPDT	5.20	4.90	4.69	3.67	2.86	2.35
93Q-908	120 VAC	DPDT	5.92	5.57	5.34	4.18	3.25	2.67
93Q-909	120 VAC	3PDT	6.48	6.10	5.84	4.57	3.56	2.92
93Q-910	208/240 VAC	SPDT	5.76	5.42	5.20	4.07	3.16	2.60
93Q-911	208/240 VAC	DPDT	6.50	6.12	5.87	4.59	3.57	2.93
93Q-912	208/240 VAC	3PDT	7.09	6.67	6.39	5.00	3.89	3.20
93Q-916	12 VDC	SPDT	5.20	4.90	4.69	3.67	2.86	2.35
93Q-917	12 VDC	DPDT	5.92	5.57	5.34	4.18	3.25	2.67
93Q-918	12 VDC	3PDT	6.50	6.12	5.87	4.59	3.57	2.93
93Q-919	24 VDC	SPDT	5.13	4.82	4.62	3.62	2.81	2.31
93Q-920	24 VDC	DPDT	5.92	5.57	5.34	4.18	3.25	2.67
93Q-921	24 VDC	3PDT	6.48	6.10	5.84	4.57	3.56	2.92

WITH 5-AMP CROSSBAR CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
93Q-934	24 VAC	SPDT	$5.28	$4.97	$4.76	$3.73	$2.90	$2.38
93Q-935	24 VAC	DPDT	6.12	5.76	5.52	4.32	3.36	2.76
93Q-936	24 VAC	3PDT	6.83	6.43	6.16	4.82	3.75	3.08
93Q-937	120 VAC	SPDT	5.28	4.97	4.76	3.73	2.90	2.38
93Q-938	120 VAC	DPDT	6.12	5.76	5.52	4.32	3.36	2.76
93Q-939	120 VAC	3PDT	6.81	6.41	6.14	4.81	3.74	3.07
93Q-940	208/240 VAC	SPDT	5.87	5.52	5.29	4.14	3.22	2.64
93Q-941	208/240 VAC	DPDT	6.30	5.93	5.68	4.45	3.46	2.84
93Q-942	208/240 VAC	3PDT	7.01	6.60	6.33	4.95	3.85	3.17
93Q-946	12 VDC	SPDT	5.56	5.23	5.01	3.92	3.05	2.51
93Q-947	12 VDC	DPDT	6.78	6.38	6.12	4.79	3.72	3.06
93Q-948	12 VDC	3PDT	7.70	7.25	6.95	5.44	4.23	3.48
93Q-949	24 VDC	SPDT	5.56	5.23	5.01	3.92	3.05	2.51
93Q-950	24 VDC	DPDT	6.78	6.38	6.12	4.79	3.72	3.06
93Q-951	24 VDC	3PDT	7.70	7.25	6.95	5.44	4.23	3.48

DC GENERAL PURPOSE RELAYS

Same as Types 84, 91 and 92 AC General Purpose Relays except for DC operation. See illustrations and specifications under AC General Purpose Relays.

Part No.	Coil VDC	Coil Resis., Ohms†	Contact Rating* VDC	Amps	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249
84D-902	12	90.0	12	3	SPDT	$4.18	$3.77	$3.36	$2.95
84D-903	24	280.0	24	1.5	SPDT	4.51	4.07	3.63	3.19
91D-912	12	29.0	32	10‡	DPDT	6.86	6.17	5.48	4.80
91D-913	24	115.0	32	10‡	DPDT	6.89	6.20	5.51	4.82
92D-912	12	26.0	32	10‡	3PDT	8.67	7.80	6.94	6.07
92D-913	24	104.0	32	10‡	3PDT	8.70	7.83	6.96	6.09

*Inductive. †At 25° C. ‡Resistive rating.

AC TIME DELAY RELAYS

Available in thermal, rectifier/capacitor and adjustable types, delay after energization or de-energization. Fixed timing cycle with non-instantaneous reset. Operate in any position. Quick-connect wiring terminals included for all types.

Ⓑ **Type 59 Thermal Time Delay Relay**—Ambient compensated. **Time Delay After Energization:** Fixed; 15–45 seconds to close. **Reset Time:** Approximately 60 sec. Fine silver contact rated 3 amps, 125/250 VAC, pilot duty. **Electrical Life:** 100,000 operations, at rated load. **Breakdown Voltage:** 1500 V rms, opposite polarity or to ground: 1000 V rms, open contacts same polarity. **Size:** 3⅜″ x 2⅛″ x ⅞″ overall. Two holes for #8 screw. Resilient mounting.

Part No.	Operating Volts	Operating W	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
59-901	24	3.0	$5.18	$4.66	$4.14	$3.63	$3.10	$2.97
59-902	115/120	7.0	5.76	5.18	4.61	4.03	3.10	2.97
59-903	230/240	10.0	5.76	5.18	4.61	4.03	3.10	2.97

Ⓒ **Type 84T Rectifier/Capacitor Time Delay Relay**—Totally enclosed. SPDT contacts rated 3 amps, 125 VAC; 1.5 amps, 250 VAC, inductive. Available in two actions: Delay after coil de-energized (Part No. with **D**) and delay after coil energized (Part No. with **E**). **Delay Time:** 2 sec, ±25%. **Reset Time:** Approximately 4 seconds. Life and breakdown voltage same as Type 59. **Size:** 2⅝″ x 2¼″ x 1½″ overall. Two holes for 6-32NC-2 on 2.188″ ctr.

Part No.	Coil Volts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
84TE-902	115/120	$10.81	$9.07	$8.01	$7.01	$6.44	$5.39
84TE-903	230/240	10.81	9.07	8.01	7.01	6.44	5.39
84TD-902	115/120	10.81	9.07	8.01	7.09	6.52	5.55
84TD-903	230/240	10.81	9.01	8.01	7.01	6.44	5.57

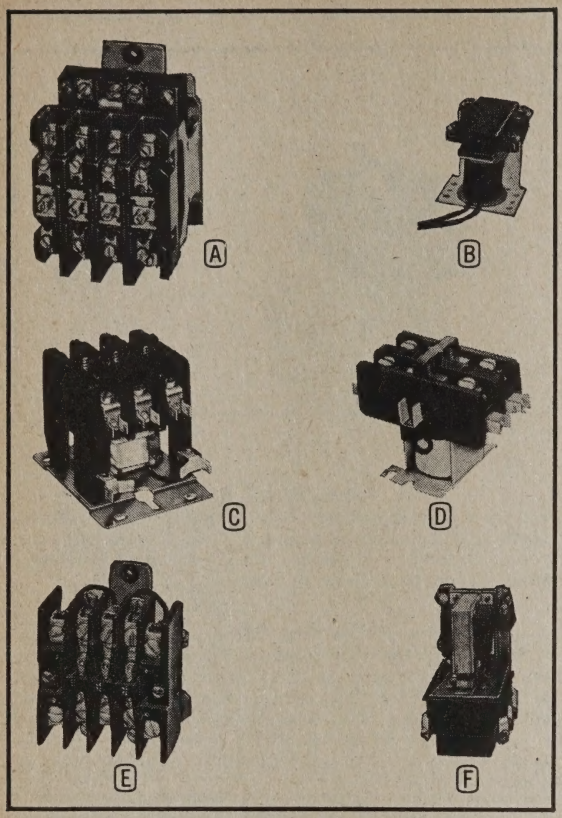
Ⓓ **Type 187 Solid State Field-Adjustable Time Delay Relay**—Totally enclosed in metal case with flat bracket; quick-connect terminals. SPNO contacts rated 1 amp, 120 VAC inductive. Hidden trimming resistor for tamper-proof field timing adjustment. Can use types 93, 84, 91, 92, 129, 143 or 75 as slave relay. **Time Delay:** 0.5 to 90 seconds on pick-up. **Repeat:** ±2% at 25° C and nominal voltage. **Reset Time:** 100 msec. **Size:** 3″ x 1¾″ x 2¼″.

Part No.	Coil Voltage (50/60 Hz)	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
187-901	24 VAC	$14.49	$13.04	$11.59	$10.14	$9.31	$7.64
187-902	120 VAC	14.49	13.04	11.59	10.14	9.38	7.71

LARGER QUANTITY DISCOUNTS

Additional discounts can be provided for quantities through 999 pieces. Write for complete pricing information.

AC Power Contactors



AC INDUSTRIAL CONTACTORS

Ⓐ Unique design permits common base, coil and magnet for contactor ratings of 10 amps (type C10), 15 amps (type C15 and CR15), 30 amps (type C30) and 50 amps (type C50R). Double break contact action. Epoxy sealed molded magnet coil housing. Replaceable contacts and coil. Laminated corrosion resistant E-type magnet and self-aligning armature. Hi-dielectric arc resistant molded contact block and carrier. Magnet coil 50/60 Hz. Resilient mounting. All 10 and 15 A contacts can be converted to NC with screwdriver. Pressure type power terminals; #10 solid wire used on C10, C15 and CR15; #8 solid wire on C30; #6 stranded wire on type C50R. Type CR15 is suitable for motor reversing and transformer tap changing industrial applications; consist of two type C contactors mounted side-by-side on common steel base; hardened steel mechanical interlock prevents simultaneous closing of both contactors; no cross phase wiring. **Size:** 3⅝″ x 2¾″ x 3⅜″ overall; dual contactors (type CR15), 3⅝″ x 5⅞₁₆″ x 3⅜″ overall.

Series	AC Contact Rating, HP: 110 VAC 1-Ph.	110 VAC 3-Ph.	220 VAC 1-Ph.	220 VAC 3-Ph.	600 VAC 1-Ph.	600 VAC 3-Ph.	Contact, Amps Resistive per Pole
C10	½	¾	¾	1	1	1	10 at 600 V
C15	1	1½	1½	2	1½	2	15 at 600 V
C30	2	3	3	7½	5	10	30 at 600 V
C50R	.....	.....	.....	.....	.....	.....	50 at 480 V
CR15	1	1½	1½	2	.....	.....	15 at 600 V

COIL VOLTAGES

Coil V*	4PNO Part No. C10-	4PNO Part No. C15-	4PNO Part No. C30-	4PNO Part No. C50R-	4PNO Part No. CR15-
110	902	902	902	902	901
220	903	903	903	903	902

*50/60 Hz.

PRICES

Net Each, Lots of	Type C10	Type C15	Type C30	Type C50R	Type CR15
1–24	$19.44	$21.65	$24.03	$28.08	$48.43
25–49	17.30	19.25	21.36	24.96	43.58
50–99	14.40	16.04	17.80	20.80	38.74
100–249	14.06	15.64	17.36	20.28	33.90
250–499	12.62	14.04	15.58	18.20	31.47
500–999	12.62	14.04	15.58	18.20	31.47

AC POWER CONTACTORS

Ⓑ **Type 75**—DPNO; screw power terminals, #8 solid wire max. Quick connect or 13″ lead coil termination. Protective contact cover. Hardware included. **Size:** 2½″ x 2⅛″ x 2¼″ overall.

Ⓒ **Type 154**—3PNO (40 amps type also with DPNO). 20 and 25 amps, screw connectors line and load side for #14 through #8 wire; ¼″ double quick connect auxiliary and coil terminals. 30 and 40 amps, pressure connectors on line side for #14 through #4 wire; screw connectors on load side (pressure connectors for 40 amps); ¼″ double quick connect auxiliary and coil terminals. Non-positional type 154 power contactors come with interchangeable mounting; low coil wattage and non-corroding structure. Type 154 has low temperature rise; riveted terminal assemblies. Hardware included in boxed quantity only. **Size:** 3¼″ x 3⅛″ (3¼″ for 40 amps) x 2¾″ overall.

Ⓓ **Type 143**—DPNO; screw power terminals, #10 solid wire max. Auxiliary quick-connect terminals; straight-thru wiring; double break contacts. Hardware included in boxed quantity only. **Size:** 3¼″ x 2⅜″ x 2½″.

Ⓔ **Type 85**—3PNO; screw terminals, #8 solid wire max. Double break contacts; ¼″ auxiliary wiring terminals. Straight-thru wiring. Hi-dielectric insulation. Resilient mounting. **Size:** 3½″ x 3⅛″ x 2⅝″ overall.

Contact amp ratings listed are continuous unless noted otherwise.

Type	Contact Rating (AC), Inductive
75	1 hp/pole, 115/230 V; 2 pole, 2 hp/230 V or 18 amps cont. (90 amps inrush); 25 amps, 240 V/pole resistive.
154	Type 154-901 to 154-903, 20 amps (80 amps inrush), 600 V; 120 amps inrush, 277 V; 100 amps inrush, 480 V; 30 amps, 600 VAC resistive. Type 154-904 to 154-906, 25 amps (100 amps inrush), 600 V; 150 amps inrush, 277 V; 125 amps inrush, 480 V; 35 amps, 600 VAC resistive. Type 154-907 to 154-909, 30 amps (120 amps inrush), 600 V; 180 amps inrush, 277 V; 150 amps inrush, 480 V; 40 amps, 600 VAC resistive. Type 154-910 to 154-915, 40 amps (160 amps inrush), 600 V; 240 amps, inrush, 277 V; 200 amps inrush, 480 V; 50 amps, 600 VAC resistive.
143	Type 143-901 to 143-903, 20 amps (100 amps inrush), 277 V; 25 amps, 600 VAC resistive; per pole. Type 143-914 to 143-916, 25 amps (150 amps inrush), 277 V; 35 amps, 600 VAC resistive; per pole w/cover. Type 143-906 to 143-908, 30 amps (150 amps inrush), 277 V; 35 amps, 600 VAC resistive; per pole w/cover.
85	25 A (150 A inrush), 250 V; 12.5 A (75 A inrush), 600 V.

PRICES

Part No.	Contacts	Coil Volts	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-999
75-901	DPNO	24	$ 5.24	$ 4.70	$ 4.16	$3.70	$3.08
75-902	DPNO	115/120	5.24	4.70	4.16	3.70	3.08
75-903	DPNO	230/240	5.24	4.70	4.16	3.70	3.08
75-904	DPNO	24*	5.24	4.70	4.16	3.70	3.08
75-905	DPNO	115/120*	5.24	4.70	4.16	3.70	3.08
75-906	DPNO	230/240*	5.24	4.70	4.16	3.70	3.08
154-901	3PNO	24	10.60	9.15	7.95	6.70	6.00
154-902	3PNO	120	10.60	9.15	7.95	6.70	6.00
154-903	3PNO	208/240	10.60	9.15	7.95	6.70	6.00
154-904	3PNO	24	13.16	11.14	9.91	8.25	7.15
154-905	3PNO	120	13.16	11.14	9.91	8.25	7.15
154-906	3PNO	208/240	13.16	11.14	9.91	8.25	7.15
154-907	3PNO	24	15.51	13.45	11.70	9.80	8.47
154-908	3PNO	120	15.51	13.45	11.70	9.80	8.47
154-909	3PNO	208/240	15.51	13.45	11.70	9.80	8.47
154-910	3PNO	24	18.38	15.95	13.80	10.21	9.40
154-911	3PNO	120	18.38	15.95	13.80	10.21	9.40
154-912	3PNO	208/240	18.38	15.95	13.80	10.21	9.40
154-913	DPNO	24	14.50	12.55	11.00	9.20	8.17
154-914	DPNO	120	14.50	12.55	11.00	9.20	8.17
154-915	DPNO	208/240	14.50	12.55	11.00	9.20	8.17
143-901	2PNO	24	7.00	6.29	5.60	4.90	3.19
143-902	2PNO	120	7.00	6.29	5.60	4.90	3.19
143-903	2PNO	208/240	7.00	6.29	5.60	4.90	3.19
143-914	2PNO	24	9.33	8.39	7.46	6.53	5.54
143-915	2PNO	120	9.33	8.39	7.46	6.53	5.54
143-916	2PNO	208/240	9.33	8.39	7.46	6.53	5.54
143-906	DPNO	24	10.49	9.45	8.39	7.35	5.76
143-907	DPNO	120	10.49	9.45	8.39	7.35	5.76
143-908	DPNO	208/240	10.49	9.45	8.39	7.35	5.76
85-901	3PNO	24	11.45	10.30	9.16	8.01	5.97
85-902	3PNO	120	11.45	10.30	9.16	8.01	5.97
85-903	3PNO	208/240	11.45	10.30	9.16	8.01	5.97

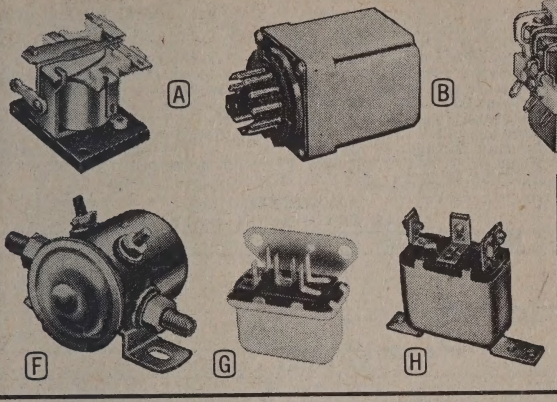
*Quick-connect tab terminals; 75-901 to 75-903, 13″ leads.

OUR STOCK IS COMPLETE AND UP TO DATE.

WRITE FOR ADDITIONAL INFORMATION ON

ANY NEW OR UNLISTED ITEMS

DC Relays



MINIATURE DC SENSITIVE RELAYS

Isolated gold alloy, crossbar contacts at 2 A, non-inductive, 28 VDC, 115 VAC. Molded combination coil bobbin and terminal block for minimum moisture absorption. Protective covers. Open and plug-in types. **Breakdown Voltage:** 1000 V rms, 60 Hz. **Operating Ambient:** −55° to +85° C. **Electrical Life:** 1,000,000 operations at 0.5 amp; 300,000 at 1.0 amp; 100,000 at 2.0 amps, all at non-inductive load. **Mechanical Life:** 100,000,000 at 180 operations/min., no load. **Operate Time:** 20 msec including bounce. **Vibration:** 2G, 10–55 cycles. **Shock:** 2G, operate; 10G, non-operate.

SINGLE POLE DOUBLE THROW

Coil Power: 40 mW, min.; 1.5 W, max. **Overall Size:** 1⅛″ x 1⅛″ x 1⅞″, open type; 2″ x 1⅜″ x 1⅜″, plug-in type. MS25 has clearance for two #5 screws.

TYPE MS25 SOLDER TERMINALS (FIG. A)

Part No.	DC Magnet Coil at 25° C Nominal	Max. Pick-Up*	Resis., Ohms ±10%	Net Each, Lots of* 1-24	25-49	50-99	100-249
MS25-901	6 V	4.5 V	510	$2.98	$2.68	$2.39	$2.08
MS25-902	12 V	9.0 V	2025	3.02	2.71	2.42	2.11
MS25-903	24 V	18.0 V	8100	3.56	3.21	2.86	2.49
MS25-904	3.7 mA	2.8 mA	5000	3.51	3.16	2.82	2.46
MS25-905	2.7 mA	2.0 mA	10000	3.76	3.38	3.02	2.63
MS25-906	2.1 mA	1.6 mA	15000	3.99	3.59	3.21	2.79

TYPE MS25P PLUG-IN OCTAL BASE (FIG. B)

MS25P-901	6 V	4.5 V	510	$7.54	$6.79	$6.03	$5.28
MS25P-902	12 V	9.0 V	2025	7.84	7.06	6.27	5.49
MS25P-903	24 V	18.0 V	8100	8.33	7.50	6.67	5.83
MS25P-904	3.7 mA	2.8 mA	5000	8.15	7.34	6.52	5.71
MS25P-905	2.7 mA	2.0 mA	10000	8.41	7.57	6.73	5.89
MS25P-906	2.1 mA	1.6 mA	15000	9.05	8.14	7.24	6.33

TWO POLE DOUBLE THROW

Coil Power: 125 mW, min.; 1.5 W, max. **Overall Size:** 1⅝″ x 1⅛″ x 1¼″, open type; 2″ x 1⅜″ x 1⅜″, plug-in type. MS50 has two holes tapped for #4-40-NC-2.

TYPE MS50 SOLDER TERMINALS (FIG. C)

Part No.	DC Magnet Coil at 25° C Nominal	Max. Pick-Up*	Resis., Ohms ±10%	Net Each, Lots of* 1-24	25-49	50-99	100-249
MS50-901	6 V	4.5 V	160	$5.45	$4.90	$4.38	$3.81
MS50-902	12 V	9.0 V	650	5.45	4.90	4.38	3.81
MS50-903	24 V	18.0 V	2600	5.58	5.02	4.48	3.90
MS50-904	6.7 mA	5.0 mA	5000	6.32	5.69	5.08	4.42
MS50-905	4.7 mA	3.5 mA	10000	6.63	5.97	5.33	4.64
MS50-906	3.9 mA	2.9 mA	15000	7.23	6.51	5.78	5.06

TYPE MS50P PLUG-IN OCTAL BASE (FIG. B)

MS50P-901	6 V	4.5 V	160	$ 9.43	$ 8.48	$7.54	$6.60
MS50P-902	12 V	9.0 V	650	9.43	8.48	7.54	6.60
MS50P-903	24 V	18.0 V	2600	9.58	8.62	7.66	6.71
MS50P-904	6.7 mA	5.0 mA	5000	10.09	9.08	8.07	7.06
MS50P-905	4.7 mA	3.5 mA	10000	10.57	9.51	8.46	7.40
MS50P-906	3.9 mA	2.9 mA	15000	11.36	10.31	9.13	7.95

THREE POLE DOUBLE THROW

Coil Power: 200 mW, min.; 1.5 W, max. **Overall Size:** 1⅝″ x 1⅛″ x 1¼″, open type; 2″ x 1⅜″ x 1⅜″, plug-in type. MS50 has two holes tapped for #4-40-NC-2.

TYPE MS50 SOLDER TERMINALS (FIG. C)

MS50-921	6 V	4.5 V	100	$7.45	$6.70	$5.96	$5.21
MS50-922	12 V	9.0 V	400	6.80	6.12	5.47	4.76
MS50-923	24 V	18.0 V	1600	6.54	5.89	5.26	4.58
MS50-924	8.5 mA	6.4 mA	5000	8.03	7.23	6.43	5.62
MS50-925	6.0 mA	4.5 mA	10000	8.35	7.51	6.68	5.84
MS50-926	4.9 mA	3.7 mA	15000	8.94	8.05	7.16	6.26

TYPE MS50P PLUG-IN 11-PIN BASE (FIG. B)

MS50P-921	6 V	4.5 V	100	$11.39	$10.34	$ 9.15	$7.97
MS50P-922	12 V	9.0 V	400	11.39	10.34	9.15	7.97
MS50P-923	24 V	18.0 V	1600	11.39	10.34	9.15	7.97
MS50P-924	8.5 mA	6.4 mA	5000	12.03	10.92	9.67	8.42
MS50P-925	6.0 mA	4.5 mA	10000	12.45	11.30	10.01	8.72
MS50P-926	4.9 mA	3.7 mA	15000	13.75	12.48	11.06	9.63

*Nominal drop-out approximately 35% of pick-up.

TYPE MS64 ENCLOSED SPDT DC SENSITIVE RELAYS

For printed circuit (Fig. D) or bracket mounting (not illustrated). Isolated contacts; snap-on cover; molded construction. **Coil Power:** 50 mW min.; 1.0 W maximum. **Size:** 1⅜″ x ¾″ x 1⅛″.

Part No.	Mtg.	DC Magnet Coil† Nominal V	Max. Pick-Up V	Resis., Ohms ±10%	Net Each, Lots of* 1-24	25-49	50-99	100-249
MS64-901	PC	6	4.5	400	$2.35	$2.12	$1.89	$1.65
MS64-902	PC	12	9.0	1600	2.64	2.30	2.04	1.70
MS64-903	PC	24	18.0	6500	2.95	2.57	2.28	1.90
MS64-904	PC	3*	2.3*	10000	3.01	2.62	2.33	1.94
MS64-911	Bkt.	6	4.5	400	2.67	2.32	2.06	1.72
MS64-912	Bkt.	12	9.0	1600	2.73	2.38	2.12	1.78
MS64-913	Bkt.	24	18.0	6500	2.88	2.51	2.23	1.86
MS64-914	Bkt.	3*	2.3	10000	3.07	2.67	2.38	1.98

*mA rating. †At 25° C.

MINIATURE SPDT OPEN FRAME RELAYS

TYPE MS40 SOLDER TERMINALS (FIG. E)

Coil Power: 50 mW, min.;1.0 W, max. Armature common to frame. **Overall Size:** 1⅛″ x 1⅛″ x 1⅛″. Two holes for #4-40-NC-2 on .687″ x .562″ centers.

Part No.	DC Magnet Coil at 25° C Nominal mA	Max. Pick-Up, mA	Resis., Ohms ±10%	Net Each, Lots of* 1-24	25-49	50-99	100-249
MS40-901	6 V*	4.5 V*	250	$2.41	$2.16	$1.93	$1.68
MS40-902	13.5	10	500	2.41	2.16	1.93	1.68
MS40-903	11.0	8.2	750	2.41	2.16	1.93	1.68
MS40-904	12 V*	7.0 V*	1000	2.51	2.26	2.02	1.76
MS40-905	7.7	5.8	1500	2.48	2.23	2.00	1.74
MS40-906	6.0	4.5	2500	2.54	2.28	2.04	1.77
MS40-907	4.3	3.2	5000	2.51	2.26	2.02	1.76
MS40-908	24 V*	19.5 V*	7500	3.07	2.76	2.47	2.15
MS40-909	3	2.3	10000	3.17	2.85	2.55	2.22

*Nominal and pick-up voltage.

DC POWER CONTACTORS

(F) **Type 70**—Solenoid actuated DC power contactors feature drawn steel dust-proof enclosure, copper stud power and coil terminals, double break rotating disc movable contact, isolated coil terminals. **Magnet Coil Rating:** 9 watts. **Breakdown Voltage:** 500 V rms, 60 Hz. **Terminals:** SPDT has six; 70-913 to 70-920, three; 70-901 to 70-908, four. **Size:** 2½″ x 3½″ x 2½″ (SPDT 3⅜″ x 3⅜″ x 2½″). Mtg. holes on 2.109″ ctrs. Hardware included.

Coil V	Contact Rating* NO	NC	Copper Contacts SPNO Pt. No.	Pt. No.•	Pt. No.▲	Silver Contacts SPNO Pt. No.	SPDT# Pt. No.	SPDT# Pt. No.■
6	80 A†	60 A§	70-901	70-913	70-917	70-905	70-909	70-921
12	80 A‡	60 A	70-902	70-914	70-918	70-906	70-910	70-922
24	50 A	30 A	70-903	70-915	70-919	70-907	70-911	70-923
36	50 A	30 A	70-904	70-916	70-920	70-908	70-912	70-924
Net Ea.:	1–24		$4.67	$4.67	$4.67	$9.70	$13.87	$12.11
	25–49		4.21	4.21	4.21	8.73	12.48	10.90
	50–99		3.74	3.74	3.74	7.76	11.10	9.69
	100–249*		3.28	3.28	3.28	6.79	9.71	8.48

*Continuous; inductive load: 36 VDC max., copper or silver contacts. Inrush rating: †300 A; ‡150 A; §100 A; others same as continuous ratings listed. #Isolated coil. •Coil grounded to case. ▲Coil common to load. ■NO copper and NC silver.

(G) **Type 150**—Enclosed in metal case with side bracket; isolated coil. Quick-connect terminals. Hardware included. Contacts rated 7.5 to 25 amps at coil voltage shown. **Size:** 2¼″ x 1½″ x 2″.

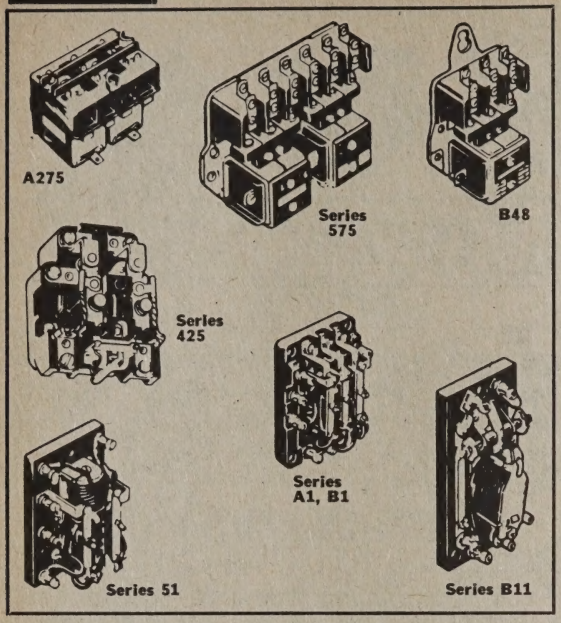
Part No.	Contacts Type	A	Coil V	Ohms	Net Each, Lots of* 1-24	25-49	50-99	100-249
150-901	SPNO	25	6	18	$3.55	$3.36	$2.98	$2.49
150-902	SPNO	25	12	44	3.55	3.36	2.98	2.49
150-903	SPNO	12	24	176	3.55	3.36	2.98	2.49
150-904	SPDT	15	6	18	4.05	3.76	3.34	2.86
150-905	SPDT	15	12	44	4.05	3.76	3.34	2.86
150-906	SPDT	7.5	24	176	4.05	3.76	3.34	2.86

(H) **Type 60**—SPNO DC power contactor in metal enclosure. **Magnetic Coil Rating:** 2 watts. **Breakdown Voltage:** 1000 V rms, 60 Hz. **Electrical Life:** 100,000 operations, 4 operations/min., rated load. **Mechanical Life:** 250,000 operations at 4 operations/min., no load. **Size:** 2⅞″ x 1⅞″ x 2⅜″ overall. Two tapped holes for #8-32-NC-2 on 1.813″ centers; clearance for #8 screw on 2.563 centers. Screw terminals. Fine silver contacts.

Part No.	Coil VDC	Coil Resis. Ohms*	Contact Rating Inductive VDC	Amps	Net Each, Lots of* 1-24	25-49	50-99	100-249
60-901	6	11	6	15	$4.20	$3.78	$3.37	$2.95
60-902	12	35	12	15	4.30	3.87	3.44	3.00
60-903	24	160	24	7.5	4.85	4.37	3.88	3.40

*At 25° C.

★LARGER QUANTITIES AVAILABLE ON REQUEST.



MOTOR CONTROLS

COMPACT REVERSING MOTOR CONTROLS

Compact reversing contactors contain two sets of 3-pole contactors on a common frame, mechanically interlocked to prevent simultaneous closure. Simplified clapper-type armature with 3-point suspension results in an unusually quiet and dependable unit. Available with one or two SPDT snap-action type auxiliary contacts on each side, for electrical interlock and/or lock-up (maintaining contact). Tab terminals (0.250″) fit standard quick-connect receptacles. **Load Contacts:** 3 DBNO on each of two interlocked armatures. **Contact Rating:** 15 amps at 110 VAC; 15 amps at 120 VAC; 10 amps at 240 VAC; or 5 amps at 480 VAC. **Motor Horse Power:** 1 hp at 120 or 240 VAC, 1, 2, or 3 phase; 1 hp at 480 VAC, 3 phase. **Coils▪:** 12, 24, 120, or 230 VAC at 60 Hz (18 VA); 12, 24, 48, or 110 VDC at 3 watts. Include silver cadmium oxide contacts molded in arc chutes for overload safety factors. **Housing:** Code 4 (see next page). UL Recognized (File #E-13224).

S-D Type A275KXX Reversing Contactor—Mechanical life of 10 million cycles. Size, 2⅞″ w. x 2¾₁₆″ d. x 3⅞₃₂″ h. Net. **$21.50•**

S-D Type A275KXX90 Reversing Contactor—With SPDT on each armature and 10 million cycles of mechanical life. Net. **$24.80•**

S-D Type A275KXX91 Reversing Contactor—With DPDT auxiliary contact on each armature and 10 million cycles of mechanical life. Size, 2⅞″ w. x 2¾″ d. x 3⅝″ h. Net Each..... **$25.90•**

THIRD GENERATION REVERSING MOTOR CONTROLS

Designed for continuous service, rugged 30-amp. contactors are used for control of overhead doors, elevators, hoists, machine tools, and similar devices. Two sets of three-pole, single throw double break NO contacts are mechanically interlocked to prevent simultaneous closure. Load Contacts: 3 DBNO on each of two inter-locked solenoids. Contact Rating: 30 amps @ 120 VAC, 208/240 AC, 15 amps @ 480/600 VAC, 15 amps @ 110/125 VDC, 2 amps @ 230 VDC. Coils: up to 600 VAC or 230 VDC. Motor Horsepower: 1½ HP @ 120 VAC, 1 phase; 3 HP @ 208/240 VAC, 1 phase; 7½ HP @ 208/240 VAC, 2–3 phase; 7½ HP @ 480/600 VAC, 2–3 phase.

S-D Type 575KXX—Net Each..... **$41.80**

S-D Type 575KXX74—With NO & NC auxiliary contacts on each solenoid. Net Each..... **$55.00**

NON-REVERSING CONTACTORS

Non-reversing contactors include fine silver contacts in arc chutes for overload safety precautions. Available in 3-pole or 4-pole versions. Each contact pair is individually spring mounted for accurate alignment. **Contact Rating:** 15 amps at 110/120/220/240/440/550 VAC; 15 amps at 115 VDC; or 2 amps at 230 VDC. **Motor Horse Power:** 1 hp at 120 VAC, 1 phase; 1½ hp at 230 VAC, 1 phase; 2 hp at 110 VAC, 2 or 3 phase; 3 hp at 220 to 550 VAC, 3 phase. **Coils▪:** 12, 24, 120, 240, 440, or 550 VAC at 60 Hz (22 VA); 12, 24, 48, 115, or 230 VDC at 10 watts. **Housing:** Code 6 (see next page). UL Listed (File #E-13224).

S-D Type B48KXX Non-Reversing Contactor—With 3 DBNO load contacts. Size, 2¹³⁄₁₆″ w. x 2½″ d. x 5⅛″ h. (overall). Net Each..... **$21.70•**

S-D Type B48LXX Non-Reversing Contactor—Same as above, but with 4 DBNO load contacts. Size, 3⅝″ w. x 2½″ d. x 4¹⁷⁄₃₂″ h. (overall). Net Each..... **$24.90•**

•QUANTITY DISCOUNTS

For Lots	Discount	For Lots	Discount
50–99	−10%	100 Up	−20%

GENERAL PURPOSE POWER RELAYS

Heavy duty, low cost power relays with excellent wiping action contacts are designed for over 100,000 operations at rated load. Mechanical life exceeds 10 million operations. High impact molded phenolics are used for bases and moving contacts insulation. "Hot Armature" types have movable contacts electrically common to the armature and magnetic structures. **Hot Armature Type Contact Rating:** 30 amps at 28 VDC or 120–240 VAC resistive. Insulated armature types have movable contacts electrically isolated from armature and magnetic structures. **Insulated Armature Type Contact Rating:** 30 amps, 28 VDC, or 120–240 VAC resistive; 10 amps at 600 VAC; 125 VDC for types with pm blowouts. UL (File #E13224) and CSA (File #LR9494) Listed.

▪STANDARD COILS

AC COILS 9.8 VA, 50/60 Hz

Nominal Voltage	Current, mA	Resistance, Ohms
6	1600	0.86
12	820	3.20
24	410	12.00
120	85	290.00
240	43	1200.00
480	22	4500.00

DC COILS 2.0 WATTS

6	333	18
12	169	71
24	84	288
110–125	18–21	6050

HOT ARMATURE TYPE

S-D Type	Contacts	Base Size	Coils▪	Net Ea.•
425XAX	SPDT	2½″ x 2½″	6/12/24/120 VAC	$5.10
425XAX	SPDT	2½″ x 2½″	208/240 VAC	5.65
425XAX	SPDT	2½″ x 2½″	6/12/24 VDC	5.10
425XAX	SPDT	2½″ x 2½″	110–125 VDC	5.85
425HXX	SPST-NO†	2½″ x 2½″	6/12/24/120 VAC	5.10
425HXX	SPST-NO†	2½″ x 2½″	208/240 VAC	5.65
425HXX	SPST-NO†	2½″ x 2½″	6/12/24 VDC	5.10
425HXX	SPST-NO†	2½″ x 2½″	110–125 VDC	5.85

INSULATED ARMATURE TYPE—600 V

425HXX2	SPST-NO†	2½″ x 2½″	6/12/24/120 VAC	$5.80
425HXX2	SPST-NO†	2½″ x 2½″	208/240 VAC	6.30
425HXX2	SPST-NO†	2½″ x 2½″	6/12/24 VDC	5.80
425HXX2	SPST-NO†	2½″ x 2½″	110–125 VDC	6.55
425BXX	DPST-NO	2½″ x 2½″	6/12/24/120 VAC	5.80
425BXX	DPST-NO	2½″ x 2½″	208/240 VAC	6.30
425BXX	DPST-NO	2½″ x 2½″	6/12/24 VDC	5.80
425BXX	DPST-NO	2½″ x 2½″	110–125 VDC	6.55
425XBX	DPDT	2½″ x 3½″	6/12/24/120 VAC	7.65
425XBX	DPDT	2½″ x 3½″	208/240 VAC	8.35
425XBX	DPDT	2½″ x 3½″	480 VAC	9.30
425XBX	DPDT	2½″ x 3½″	6/12/24 VDC	7.65
425XBX	DPDT	2½″ x 3½″	110–125 VDC	8.35
425XBX90*	DPDT	2½″ x 3½″	24/120 VAC	9.95
425XBX90*	DPDT	2½″ x 3½″	208/240 VAC	10.70

*Has SPDT auxiliary switch extending ⅞″ beyond base; 10 amps, 250 VAC. †DM action.

6-AMP GENERAL PURPOSE RELAYS

General purpose type relays are conventional single-coil relays. Contacts open, close, or transfer when coil is energized; return to normal when coil is deenergized. All UL Listed (File #E7104). **Coils▪:** 6, 12, 24, 120, 240 VAC, 60 Hz; 6, 12, 24, 115 VDC. **Contact Rating:** 6 amps at 24 or 120 VAC; 3 amps at 240 VAC; 6 amps at 24 VDC; 0.5 amp at 115 VDC; all non-inductive type.

S-D Type	Contacts	Base Size	Housing Code*	Net Each•
B1HXX	SP NO DB	1⅞″ x 2¾″	1	$15.40
B1XAX	SPDT	1⅞″ x 2¾″	1	17.40
B1XBX	DPDT	1⅞″ x 2¾″	1	21.40
A1CXX	3P NO	2½″ x 3½″	2	26.10
A1XCX	3PDT	2½″ x 3½″	2	29.40

6-AMP LATCHING RELAYS

Dependable mechanical latching with electrical reset. Simple, open construction for long, dependable operation. **Coils▪:** 6 VA at 6, 12, 24, 115, 230 VAC, 60 Hz; 3 watts at 6, 12, 24, 115 VDC. **Contact Rating:** 6 amps at 24 or 115 VAC; 3 amps at 230 VAC; 6 amps at 24 VDC; 0.5 amp at 115 VDC; all non-inductive type.

51BXX46	DP NO	2⅜″ x 3¼″	3	$31.40
51AXA46	1 NO, 1 NC	2⅜″ x 3¼″	4	31.40
51XBX46	DPDT	2⅜″ x 5¹⁄₁₆″	4	52.00
51BXB46	2 NO, 2 NC	2⅜″ x 5¹⁄₁₆″	4	52.00

*See next page.

6-AMP SEQUENCE RELAYS

Operate in predetermined sequence; cams are stepped from one position to next by impulse to coil. Fine-silver contacts; intermittent duty coils. **Coils▪:** Specify 24, 120, or 240 VAC, 60 Hz (6 VA); 24, or 115 VDC (6 watts). **Contact Rating:** 6 amps at 24 or 120 VAC; 3 amps at 240 VAC; 6 amps at 24 VDC; 0.5 amp at 115 VDC; all non-inductive type.

S-D Type	Contacts	Base Size	Housing Code‡	Net Each•
B11BXX*	DPST	2″ x 3¹³⁄₁₆″	2	$41.40
B11AXA†	1 NO, 1 NC	2″ x 3¹³⁄₁₆″	2	41.40

*Contacts open and close together. †Contacts alternate. ‡See next page.

▪Specify type number and coil voltage when ordering.

SEE FOLLOWING PAGE FOR HOUSING CODE EXPLANATION AND LISTING

COMMERCIAL RELAYS, TIMERS AND HOUSINGS

POWER RELAYS

Power relays available in general use, latch, and sequence types. Heavy duty contacts transfer when coil is energized. Ideal for controlling small motors, heaters, solenoids, audible and visual signals, or for transferring power from main to auxiliary supply or load.

GENERAL PURPOSE 30-AMP TYPE RELAYS

Rugged, high current relays on heavy insulated bases. Contacts are ⅜" diameter fine silver buttons. Movable contact arms are double-sprung, rigid assemblies individually adjusted for wipe and pressure. 600-volt electrical spacing. **Coil*:** 24, 120, 240, or 440 VAC, 60 Hz (15 VA); 24, 115 or 230 VDC (7 watts). **Contact Ratings:** 30 amps at 24, 120, or 240 VAC; 30 amps at 24 VDC; 3 amps at 115 VDC; 0.75 amp at 230 VDC; all non-inductive type.

Type	Contacts	Base Size	Housing Code	Net Each•
A8HXX*†	SP NO DB	3" x 4¼"	4	**$27.40**
8BXX*	DP NO	3" x 4¼"	4	**35.50**
8AXA*	1 NO, 1 NC	3" x 4¼"	4	**35.50**
A8CXX	3 NO	3" x 4¼"	4	**40.00**
8DXX	4 NO	4" x 5"	4	**45.40**
84BXB	2 NO, 2 NC	3" x 6¼"	5	**49.30**
84XBX	DPDT	3" x 6¼"	5	**45.40**

*UL Listed (File #E-7104). †Has SP double-break contacts rated at 6 amps, 115 VDC; 3 amps, 230 VDC; and 30 amps, 240 VAC.

30-AMP LATCHING RELAYS

Latching types are two-coil relays that memorize the last impulse received. Pulse to the lower coil latches contacts into operated position permanently, until released by a pulse to the upper coil. Coils operate on a single 1/20-second or longer pulse; can be used for continuous duty. Electrical spacing, 600 volts. **Coil*:** Specify 24, 120, 240, or 440 VAC, 60 Hz (15 VA); 24, 115, or 230 VDC (7 watts). **Contact Ratings:** 30 amps at 24, 120, or 240 VAC; 30 amps at 24 VDC; 3 amps at 115 VDC; 0.75 amp at 230 VDC; all non-inductive.

A5BXX46	DP NO	3¼" x 4½"	4	**$41.40**
A5AXA46	1 NO, 1 NC	3¼" x 4½"	4	**41.40**
A5BXB46	2 NO, 2 NC	4" x 7"	8	**56.00**
A5XBX46	DPDT	4" x 7"	8	**52.00**

20-AMP SEQUENCE RELAYS

Sequence type relays have single coil operating a ratchet wheel. Control cams step from one position to the next on each impulse. Relay operates on a 1/20-second pulse. Coils are for momentary or intermittent duty only. **Coil*:** Specify 24, 120, 240, or 440 VAC, 60 Hz (18 VA); 24, 115, or 230 VDC (14 watts). **Contact Ratings:** 20 amps at 24 or 120 VAC; 10 amps at 240 VAC; 20 amps at 24 VDC; 1 amp at 115 VDC; 0.25 amp at 230 VDC; all non-inductive type.

S-D Type	Contacts	Base Size	Housing Code	Net Each•
C85BXX	DPST*	3" x 5"	6	**$65.30**
C85AXA	1 NO, 1 NC†	3" x 5"	6	**65.30**

*Contacts open and close together. †Contacts alternate.

SENSITIVE RELAYS

Single pole-double throw relays operate on very low current to protect delicate instrument contacts or conserve power. Special hinge construction gives long, trouble-free life. Efficient magnetic circuit provides increased contact pressure with minimum coil current. **Life:** Over 1 million operations. **Housing:** Code 1. **Contact Ratings:** 2 amps at 24 or 120 VAC; 1 amp at 240 VAC; 2 amps at 24 VDC; 0.25 amp at 115 VDC; all non-inductive type. **Base Size:** 2½" x 2⅜".

S-D Type	Coil Data		Ohms	Net Each•
	Voltage*	mA		
A112XAX	6 VAC (60 Hz)	31.5	190	**$22.20**
A112XAX	12 VAC (60 Hz)	19.0	630	**22.20**
A112XAX	24 VAC (60 Hz)	9.7	3000	**22.20**
A112XAX	120 VAC (60 Hz)	2.0	53000	**22.20**
A112XAX	8 VDC	1.6	5050	**20.40**
A112XAX	11.7 VDC	1.0	11700	**25.80**

***Specify type number and coil voltage when ordering.**

TIMERS

ROUND-AND-ROUND REPEATING

Has 1 minute cycle; 50/50 split adjustable cam operates SPDT contacts. Operates on 120 VAC, 60 Hz. **Housing:** Code 4. **Contact Ratings:** 10 amps at 120 VAC (½ hp motor); 5 amps at 240 VAC; all non-inductive type load. **Size:** 2⅛" w. x 2¼" d. x 3 1⁵⁄₁₆" h. overall.

S-D Type APSY1 Round-and-Round Repeating Motor—Net Each..... **$41.40•**

RECYCLING

Adjustable "On" time delay from 5 to 45 seconds. SPDT contacts transfer at preset time and hold in "operated" position while motor is energized. Cam spring-returned to starting position when deenergized. **Housing:** Code 2. **Contact Ratings:** 10 amps at 120/240 VAC (½ hp motor); 10 amps at 12 VDC; 1.5 amps at 24 VDC; 0.2 amp at 125 VDC; 0.1 amp at 250 VDC; all non-inductive type loading. **Size:** 2¼" w. x 1 1⁵⁄₁₆" d. x 2⅜" h. overall.

S-D Type PSAP4 Recycling Motor Timer—Operates on 115 VAC, 60 Hz. Net.. **$37.30•**

S-D Type PSAP2 Recycling Motor Timer—Operates on 230 VAC, 60 Hz. Net.. **37.30•**

RELAY HOUSING

Code designations in the foregoing listings indicate housing types available for the various relays as per the following table. Code No. 1, for instance, indicates that either an H6 sheet metal, an H4 weatherproof, or an H9 explosion proof housing can be supplied. Specify enclosure by type number when ordering. All sheet metal housings have gray crackle finish.

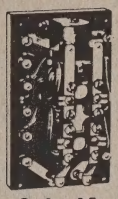
OVERALL DIMENSIONS

Type	Width	Height	Depth	Type	Width	Height	Depth
H2	6⅞"	8 5⁄16"	4⅛"	**H11**	8⅞"	10⅜"	4⅛"
H3	6 3⁄16"	7⅞"	3¾"	**H12**	10⅞"	10⅜"	4⅛"
H4	3"	5 5⁄16"	3⅛"	**H21**	8"	7"	5 5⁄16"
H6	6⅜"	6⅝"	3⅝"	**H76**	4⅝"	4⅝"	2⅝"
H9	4⅛"	4⅛"	3 3⁄16"	**W6**	6⅛"	9½"	4¼"

CODE AND PRICING

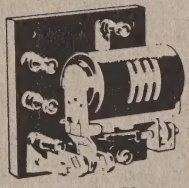
	Sheet Metal		Weatherproof		Explosion Proof	
Code	Type	Net Each	Type	Net Each	Type	Net Each
1	**H6**	**$13.40**	**H4**	**$14.80**	**H9**	**$ 28.80**
2	**H6**	**13.40**	**W6**	**54.10**	**H21**	**129.20**
3	**H3**	**13.40**	**W6**	**54.10**	**H76**	**38.70**
4	**H3**	**13.40**	**W6**	**54.10**	**H21**	**129.20**
5	**H2**	**17.40**	**W6**	**54.10**	.....	.....
6	**H3**	**13.40**	**W6**	**54.10**	.....	.....
7	**H6**	**13.40**	**W6**	**54.10**	**H9**	**28.80**
8	**H11**	**24.80**	.....	.....	.....	.....
9	**H12**	**26.70**	.....	.....	.....	.....

Series 8, 84

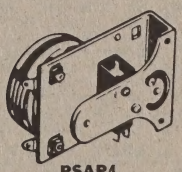


Series A5

Series C85



A112XAX



PSAP4

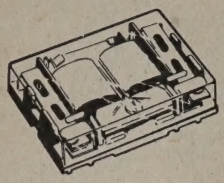
Housings

•QUANTITY DISCOUNTS

For larger quantity orders, the following discounts apply. Use price shown, and multiply with multipliers shown.

For Lots	Discount	Multiplier
50–99	−10%	.90
100 Up	−20%	.80

S-D Industrial Relays, Sockets



Series 412

Series A314

Series 281

Series A283

DC SENSITIVE RELAYS FOR PC MOUNTING

Operate on about 50 mw to provide DPDT switching directly from the transistor stages of IC's. Load life—1 million operations @ 3 amps 120 VAC, 250,000 operations @ 3 amps 28 VDC. Snap-on dust cover, flat pack for boards on ½" centers, pin terminals for soldering or plug-in using AMP Z-332-0270-2 inserts. Size: 1 7/16" w. x 1 1/32" h. x 1 1/32" d.

S-D Type	Volts	Ohms	MW	Net Each*
412XBX	5	250	100	$ 9.90
412XBX	6	360	100	9.90
412XBX	12	1440	100	9.90
412XBX	24	5760	100	10.50

ENCLOSED PLUG-IN INDUSTRIAL RELAYS

Compact, plug-in relays for general purpose, industrial type devices. Include gold plated, silver cadmium oxide contacts on flexing arm; dust-tight, clear polycarbonate covers. **Mechanical Life:** 10 million operations. **Contact Ratings:** 10 amps, 120 VAC (⅙ hp); 5 amps, 240 VAC (⅓ hp). **Size:** 1½" w. x 1½" d. x 2¼" h. UL Recognized (File #E13224).

S-D Type	Contacts	No. of Terminals	Coil Voltages*	Net Each*
A314XAX48P	SPDT	Octal	6, 12, 24, 120, or 240 VAC; 6, 12, 24, 48 VDC	$ 6.50
A314XBX48P	DPDT	Octal		7.10
A314XCX48P	3PDT	11		7.00
A314XAX48P	SPDT	Octal	115 VDC	7.60
A314XBX48P	DPDT	Octal	115 VDC	9.10
A314XCX48P	3PDT	11	115 VDC	9.60
WITH NEON LAMP ACROSS COIL				
A314XAX48PL	SPDT	Octal	120 VAC	$ 7.70
A314XBX48PL	DPDT	Octal	120 VAC	8.10
A314XCX48PL	3PDT	11	120 VAC	10.20

INDUSTRIAL 10-AMP OPEN TYPE RELAYS

Industrial relays with silver cadmium oxide contacts. Solder lug terminals are aligned in molded support with integral insulating barriers. Mount with single 6-32 threaded stud and turn resistant tab. **Contact Rating:** 10 amps, 120 VAC non-inductive (⅙ hp); 5 amps, 240 VAC non-inductive (⅓ hp). **Size:** 1⅞" w. x 1⅜" d. x 1 1/16" h. UL Recognized (File #E-13224).

S-D Type	Contacts	Coil Voltages*	Net Each*
A314XAX	SPDT	6, 12, 24, 120, or 240 VAC; 6, 12, 24, or 48 VDC	$3.80
A314XBX	DPDT		4.30
A314XCX	3PDT		4.60
A314XAX	SPDT	115 VDC	5.20
A314XBX	DPDT	115 VDC	5.20
A314XCX	3PDT	115 VDC	5.20

SOLDER OR PLUG-IN MINIATURE RELAYS

Miniature 14-terminal relays feature high contact packaging density for applications requiring large banks of closely mounted relays. Fully equipped with solder-tab terminals and single mounting stud for direct wired applications. Performs as a plug-in relay when provided with a socket (listed below). **Contact Rating:** 3 amps at 30 VDC or 115 VAC. **Size:** 1⅛" w. x ⅞" d. x 1 9/32" h. UL Recognized (File #E-7104).

S-D Type	Contacts	Coil Voltages*	Net Each*
281XDX	4PDT	6, 12, or 24 VDC	$5.30
281XDX	4PDT	48 VDC	5.40
281XDX	4PDT	110 VDC	5.60
281XDX	4PDT	6, 12, or 24 VAC	6.10
281XDX	4PDT	120 VAC	6.50

OPEN AND ENCLOSED PLUG-IN RELAYS

Open and enclosed plug-in, 10-amp industrial relays come with rugged, gold-diffused, silver-cadmium oxide contacts. Excellent wiping action permits the use on variety of loads ranging from instrument and logic circuits to the control of heaters, solenoids, small motors, and other relays. Available in one, two, or three-pole contact combinations. Q-C terminals (.187" flat male), spaced for standard plug-in mounting, and are pierced to accommodate solder wiring. All relays come with AC or DC standard coils with various nominal voltages. **Contact Ratings:** 10 amps resistive, 28 VDC; 10 amps resistive, 120–240 VAC with ⅓ hp motor at 120 VAC, and ½ hp motor at 240 VAC. **Size:** Type 283XCX, 1⅜" w. x 1¼" d. x 2" h.; type 283XBXC, 1½" w. x 1½" d. x 2 5/32" h.; type 283XCXC1, 1½" w. x 1⅜" d. x 2 29/32" h.

CONTINUOUS DUTY COILS
1 and 2 Pole 2 VA, 50/60 Hz

Nominal VAC	Current in mA	Resistance in Ohms
6	335.00	6
12	168.00	21
24	84.00	85
120	17.50	2250
240	8.75	9110

3 Pole 2.7 VA, 50/60 Hz, AC Coils

Nominal Voltage	Current in mA	Resistance in Ohms
6	460	4.2
12	230	18.0
24	115	72.0
120	24	1700.0
240	12	7200.0
1.2 Watts, DC Coils		
6	188.0	32.1
12	100.0	120.0
24	51.0	472.0
48	26.6	1800.0
110–125	10.5–12.5	10000.0

OPEN, WITH TAPPED 6-32 HOLE

S-D Type	Contacts	Coil Voltages*	Net Each*
A283XAX	SPDT	6/12/24/120 VAC	$4.10
A282XAX	SPDT	240 VAC	4.60
A283XAX	SPDT	6/12/24 VDC	4.00
A283XAX	SPDT	110 VDC	4.70
A283XBX	DPDT	6/12/24/120 VAC	5.20
A283XBX	DPDT	240 VAC	5.70
A283XBX	DPDT	6/12/24 VDC	4.60
A283XBX	DPDT	110 VDC	5.40
A283XCX	3PDT	6/12/24/120 VAC	5.80
A283XCX	3PDT	240 VAC	6.40
A283XCX	3PDT	6/12/24 VDC	5.30
A283XCX	3PDT	110 VDC	5.80
ENCLOSED, PLUG-IN TYPE			
A283XAXC	SPDT	6/12/24/120 VAC	$4.40
A283XAXC	SPDT	240 VAC	5.00
A283XAXC	SPDT	6/12/24 VDC	4.30
A283XAXC	SPDT	110 VDC	5.10
A283XBXC	DPDT	6/12/24/120 VAC	5.50
A283XBXC	DPDT	240 VAC	6.00

ENCLOSED PLUG-IN TYPE (Cont'd)

S-D Type	Contacts	Coil Voltages*	Net Each*
A283XBXC	DPDT	6/12/24 VDC	$4.90
A283XBXC	DPDT	110 VDC	5.70
A283XCXC	3PDT	6/12/24/120 VAC	6.20
A283XCXC	3PDT	240 VAC	6.70
A283XCXC	3PDT	6/12/24 VDC	5.70
A283XCXC	3PDT	110 VDC	6.20
ENCLOSED, BRACKET-MOUNTED			
A283XAXC1	SPDT	6/12/24/120 VAC	$4.40
A283XAXC1	SPDT	240 VAC	5.00
A283XAXC1	SPDT	6/12/24 VDC	4.30
A283XAXC1	SPDT	110 VDC	5.10
A283XBXC1	DPDT	6/12/24/120 VAC	5.50
A283XBXC1	DPDT	240 VAC	6.00
A283XBXC1	DPDT	6/12/24 VDC	4.90
A283XBXC1	DPDT	110 VDC	5.70
A283XCXC1	3PDT	6/12/24/120 VAC	6.20
A283XCXC1	3PDT	240 VAC	6.70
A283XCXC1	3PDT	6/12/24 VDC	5.70
A283XCXC1	3PDT	110 VDC	6.20

*Specify type number and coil voltage when ordering.

SOCKETS

S-D Type 32884 Socket—Socket with solder tab terminals for S-D Type 281XDX relays. Size, 1 5/32" w. x 1" d. x ⅜" h. Net Ea... **80c**

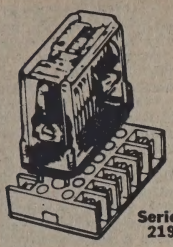
S-D Type 32885 Socket—Socket with PC terminals for S-D Type 281XDX relays. Size, 1 5/32" w. x 1" d. x ⅜" h. Net Each..... **80c**

S-D Type 36580 Socket—Socket with .187" Q-C terminals for S-D Type 283X relays. Size, 1 31/64" w. x 2" d. x ⅝" h. Net Ea.. **$1.00**

★QUANTITY DISCOUNTS

For Lots	Discount	Multiplier
25–49	−5%	.95
50–74	−10%	.90
75–99	−20%	.80
100 Up	−30%	.70

Industrial Relays, Sockets


Series 219

Series 236, 237

Series A255

Series 211

GENERAL PURPOSE RELAYS

Gold diffused, silver cadmium oxide contacts, normally rated at 10 amps; clear burn-resistant plastic covers. **Mechanical Life:** 20 million operations. **Contact Rating:** 10 amps, 120 VAC, resistive. **Coils*:** 6/12/24/120/240 VAC, 60 Hz, 5 VA; 6/12/24/115–125 VDC, 1.8 watts. **Size:** 2⅝" w. x 1 15/32" d. x 3 13/32" h. (with pins). UL Recognized.

S-D Type	Contacts	Contacts Fig.	Net Each*
219XBXP	DPDT	A	$18.90
219BBXP	DPDT, 2 NO	B	22.60
219ABAP	DPDT, 1 NO, 1 NC	C	22.60

4 POLE AND 6 POLE GENERAL PURPOSE RELAYS

Same as above, but provide 4PDT or 6PST switching. Includes 14 pins. **Size:** 3⅛" w. x 1 15/32" d. x 3 13/32" h. (with pins).

219DXBP	4PNO, 2PNC	D	$25.65
219FXXP	6PNO	E	25.65
219XDXP	4PDT	F	25.65

OPTIONAL FEATURES FOR GENERAL PURPOSE RELAYS

To Order: Add suffix to the type, and add price of option to the item (e.g., S-D Type 219XBXP**LM** indicates 219XBXP type relay with indicator lamp and manual actuator).

S-D Suffix L Indicator Lamp—Lamp wired across coil indicates when coil is energized. Net Each..... $1.90*

S-D Suffix M Manual Actuator—Manual actuator on cover allows manual operation of relay contacts; spring returns contacts to normal. Net Each..... $1.90*

S-D Suffix 33 Bifurcated Contacts—Twin contacts of gold diffused fine silver, with adequate pressure and overtravel for reliability. Net Each..... $6.10*

LATCH RELAYS

Latch relays are mechanically latched, electrically reset versions of the 219 type relays. Contacts operate from common armature to avoid overlapping. **Mechanical Life:** 10 million operations. **Contact Rating:** 10 amps, 120 VAC, resistive. **Coils*:** 6, 12, 24, 120, or 240 VAC at 60 Hz and 5 VA; 6, 12, 24, or 115–125 VDC at 1.8 watts. **Size:** 2⅝" w. x 1 15/32" d. x 4 9/16" h. (with pins).

A255XBXP	DPDT	G	$37.20
A255XCXP	3PDT	H	40.15
A255BXBP	2 NO, 2 NC	I	40.15

TIME DELAY RELAYS

Solid state timing network for type 219 relays. "On Delay" (type 236) network energizes relay at preset timing period, after power is applied. "Off Delay" (type 237) network supplies power to relay coil for preset period of time, after signal circuit is deenergized. **Delay Range:** "On Delay", 0.2–12 sec, 0.2–20 sec, or 2–200 sec; "Off Delay", 0.2–20 sec, or 2–200 sec. **Contact Rating:** 10 amps, 120 VAC, resistive. **Coils*:** 24 or 120 VAC, 60 Hz; 24 or 115 VDC. **Size:** 2⅝" w. x 1 15/32" d. x 4 9/16" h. (with pins).

236ABXP	DPDT, 1 NO	J	$ 86.85
237XBXP	DPDT	K	102.00

SEQUENCE RELAYS

Sequence relays contain a rugged 8-tooth ratchet operating two contact cams. Contacts change position on each impulse; hold last position until next impulse. Cam position changes when coil is energized or deenergized. **Contact Rating:** 5 amps, 115 VAC, resistive. **Coils*:** 6, 12, 24, 120, or 240 VAC at 60 Hz; 6, 12, 24, 115 VDC. **Size:** 2⅝" w. x 1 15/32" d. x 4 9/16" h. (with pins).

211XBXP*	DPDT	L	$38.35
211AXAP*	1 NO, 1 NC	M	34.65
211XBXPR†	DPDT	L	38.35
211AXAPR†	1 NO, 1 NC	M	34.65

*Contacts transfer when coil is energized. †Contacts transfer when coil is deenergized.

OVER AND UNDER VOLTAGE RELAYS

Type 349 relays contain an adjustable solid state voltage sensing device. Potentiometer shaft extends through the cover for setting pick-up voltage. **Contact Rating:** 10 amps, 120 VAC resistive. **Coil*:** 85–135 VAC adjustable pull-in range. **Size:** 2⅝" w. x 1 15/32" d. x 4 9/16" h. (with pins).

349BBXP*	DPDT, 2 NO	N	$105.10
349ABXP†	DPDT, 1 NO	P	105.10
349XBXP†	DPDT	R	118.80

*With 3 ±1 volt fixed differential. †With 2–14 volts adjustable differential.

ALARMS

Quality designed units combine the functions of two intertwined relays. Alarms operate from sustained or momentary contacts. Relay operates both alarm and light. Signal may be turned off manually or automatically, when alarm initiating condition clears. **Contact Rating:** 10 amps, 120 VAC resistive. **Coil*:** 120 VAC, 60 Hz. **Size:** 2⅝" w. x 1 15/32" d. x 3 13/32" h. (with pins).

S-D Type RSX1440Z Alarm—Initiated by sustained, momentary, or intermittent closure of NO trouble contacts. Net Each..... $32.10*

S-D Type RSX1440S Alarm—Initiated by NC trouble contacts. Net Each... 32.10*

SOCKETS

S-D Type 27390 Sockets—12-terminal socket accepts all relays shown on this page except 14-pin versions of series 219. Front connect screws with captive clamp plates hold up to two #14 wires. Mounted to panel with two 6-32 screws. Size, 2 21/32" w. x 2 3/16" d. x 2 7/32" h. Net Each..... $3.10

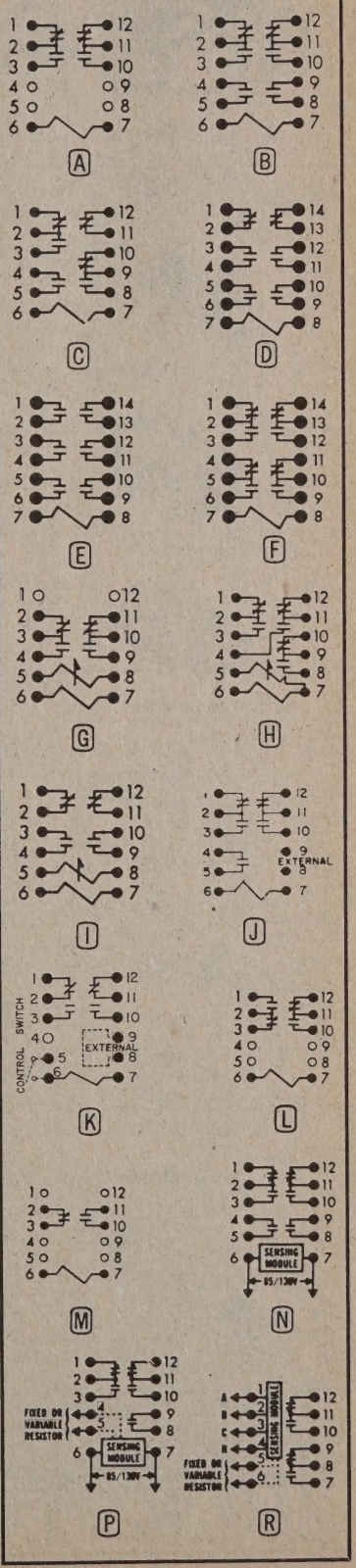
S-D Type 33377 Sockets—Same as above, but with 14 pins. Used only for series 219, 14-terminal relays. Size, 3 3/32" w. x 2 3/16" d. x 2 7/32" h. Net Each..... $3.50

*Specify type number and coil voltage when ordering.

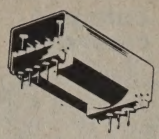
★QUANTITY DISCOUNTS

For Lots	Discount	For Lots	Discount	For Lots	Discount	For Lots	Discount
25–49	−5%	50–74	−10%	75–99	−20%	100 Up	−30%

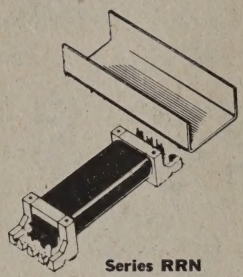
CONTACTS DIAGRAMS



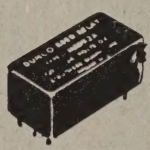
S-D Dry Reed Relays



Series MRRN



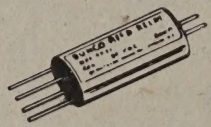
Series RRN



Series MRRK

Series MRRS

Series MRR



Series RR

Series MRR-M

Series RRLM

★QUANTITY DISCOUNTS

For larger quantity orders, the following discounts apply. Use price shown and multiply with multipliers shown.

For Lots	Discount	Multiplier
25–49	−5%	.95
50–74	−10%	.90
75–99	−20%	.80
100 Up	−30%	.70

DRY REED RELAYS

Quality-made dry reed relays featuring fast response, excellent sensitivity, and reliable performance. Fully equipped with contamination-proof, glass-sealed reed switches, non-critical mounting, and complete magnetic shielding for exceptionally fast low-level and light-duty switching. Available with either miniature or standard size reed switches, in a wide selection of Form A (SPST-NO), Form B (SPST-NC), or Form C (SPDT) contact arrangements. **Rating:** Miniature size, not to exceed 10 VA at maximums of 0.5 amp or 250 VAC or VDC (3 VA at maximums of 0.25 amp or 100 VAC or VDC for Form C); standard size, not to exceed 15 VA at maximums of 1 amp or 250 VAC or VDC (10 VA at maximums of 0.5 amp or 250 VAC or VDC for Form C). **Performance Time:** Operate, 0.5–1.5 millisec for miniature size, 1.5–2.0 millisec for standard size; release, 0.5–1.5 millisec, all sizes. **Life:** 200 million operations (50 for Form C miniature size) in dry circuit, 20 million operations with miniature switches, and 100 million operations (50 for Form C) with standard switches at half rating. 10 million operations with miniature switches, and 20 million operations with standard switches at full rating. **Dielectric Strength:** Miniature type, 250 volts rms; standard type, 400 volts rms. **Ambient Temperature Range:** −20° C to +60° C. **Insulation Resistance:** Minimum 1000 megohms.

OPEN TYPE RELAYS FOR P/C MOUNTING

Compact units for low cost applications. Coils and reed-switch capsules are protected by snap-on metal cans that also provide magnetic shielding. Reed switch leads connect to "in-line" non-magnetic PC terminals. **Terminal Spacing:** Miniature reed MRRN type, 1″ centers, 0.1″ grid; standard reed RRN type, 1.9″ centers, 0.2″ grid.

S-D Type	Contacts and Form	Coil Resis., Ohms DC at 6 VDC*	at 12 VDC*	at 24 VDC*	Body Size Inches W. x D. x H.	Net Each* 6, 12 VDC	24 VDC
MRRN1A	1A	190	750	3000	1.125 x .406 x .375	$ 3.70	$ 4.10
MRRN2A	2A	125	500	2000	1.125 x .535 x .375	5.20	5.55
MRRN3A	3A	100	400	1600	1.125 x .609 x .375	7.10	7.10
MRRN4A	4A	65	250	1000	1.125 x .706 x .375	8.85	8.85
MRRN1B	1B	125	500	2000	1.125 x .535 x .375	4.10	4.60
MRRN2B	2B	100	400	1600	1.125 x .609 x .375	5.90	6.20
MRRN1C	1C	190	750	3000	1.125 x .406 x .375	7.20	7.20
MRRN2C	2C	100	400	1600	1.125 x .609 x .375	10.50	10.50
MRRN3C	3C	65	250	1000	1.125 x .706 x .375	13.85	13.85
RRN1A	1A	150	600	2400	2.500 x .740 x .641	3.35	3.35
RRN2A	2A	100	400	1600	2.500 x .958 x .641	5.10	5.10
RRN3A	3A	50	200	800	2.500 x 1.188 x .641	5.90	5.90
RRN4A	4A	40	150	600	2.500 x 1.418 x .641	7.75	7.75
RRN1B	1B	100	400	1600	2.500 x .958 x .641	3.80	3.80
RRN2B	2B	50	200	800	2.500 x 1.188 x .641	5.80	5.80
RRN1C	1C	150	600	2400	2.500 x .740 x .641	6.45	6.45
RRN2C	2C	50	200	800	2.500 x 1.188 x .641	9.20	9.20
RRN3C	3C	40	150	600	2.500 x 1.418 x .641	12.50	12.50

PLASTIC CASE TYPE RELAYS FOR P/C MOUNTING

Mechanically protected relays come with ultrasonically welded thermoplastic case. Standoff pads near terminations facilitate production line soldering. Internal magnetic shields. **Terminal Spacing:** 0.1″ grid. Miniature reed switch type only.

MRRK1A	1A	100	400	1600	1.290 x .660 x .445	$ 4.00	$ 4.45
MRRK2A	2A	100	400	1600	1.290 x .660 x .445	5.80	6.00
MRRK3A	3A	100	400	1600	1.290 x .660 x .445	7.75	7.75
MRRK1A1B	1A and 1B	100	400	1600	1.290 x .660 x .445	6.20	6.20
MRRK1B	1B	100	400	1600	1.290 x .660 x .445	4.45	4.70
MRRK2B	2B	100	400	1600	1.290 x .660 x .445	6.45	6.45
MRRK1C	1C	100	400	1600	1.290 x .660 x .445	7.75	7.75
MRRK2C	2C	100	400	1600	1.290 x .660 x .445	11.05	11.05

LOW PROFILE EPOXY MOLDED RELAYS FOR P/C MOUNTING

Low-profile, one, two, and four-pole relays for use on printed circuit boards. Molded into rigid, homogeneous structures with internal magnetic shielding. In-line PC terminals are on 0.172″ grid spacing. Miniature reed switch type only.

MRRS1A	1A	144	576	2300	1.300 x .500 x .350	$ 4.90	$ 4.90
MRRS2A	2A	95	380	1440	1.300 x .625 x .350	6.80	6.80
MRRS4A	4A	31	125	500	1.300 x 1.00 x .350	8.55	8.55
MRRS1A1B	1A and 1B	31	125	500	1.300 x 1.00 x .350	9.30	9.30
MRRS1B	1B	95	380	1440	1.300 x .625 x .350	6.80	6.80

EPOXY MOLDED RELAYS WITH AXIAL LEADS

Epoxy molded units for maximum mechanical protection. Leads may be soldered to terminal studs or supporting wire, or bent at right angle for printed circuit use. Wrap-around cans for external magnetic shielding. **Terminal Spacing:** Miniature reed MRR type, 0.115″; standard reed RR type, 0.2″.

MRR1A	1A	288	1152	4600	1.062 x .425 dia.	$ 4.70	$ 6.90
MRR2A	2A	144	576	2300	1.062 x .430 x .515	6.90	8.55
MRR4A	4A	72	288	1152	1.062 x .535 x .810	11.75	11.75
MRR12A	12A	24	94	384	1.062 x .635 x 1.805	30.15	30.15
RR1A	1A	90	360	1440	1.875 x .655 dia.	3.60	3.60
RR2A	2A	36	145	580	1.875 x .670 x .840	5.55	5.55
RR4AF	4A	24	95	380	1.875 x .810 x 1.385	9.50	9.50
RR1B	1B	90	360	1440	1.875 x .655 dia.	4.60	4.60

METAL CAN TYPE RELAYS FOR P/C MOUNTING

Quality designed relays in metal cans. Steel cases provide magnetic shielding and complete mechanical protection. **Terminal Spacing:** Miniature reed MRR-M type, 0.1″; standard reed RR-M type, 0.2″.

MRR1AM	1A	144	576	2304	1.125 x .500 x .500	$ 6.30	$ 6.30
MRR2AM	2A	72	288	1152	1.125 x .500 x .500	7.55	7.55
MRR3AM	3A	72	288	1152	1.125 x .500 x .500	8.75	8.75
MRR1BM	1B	144	576	2304	1.125 x .500 x .500	6.55	6.55
MRR2BM	2B	72	288	1152	1.125 x .500 x .500	7.75	7.75
MRR1CM	1C	144	576	2304	1.125 x .500 x .500	11.75	11.75
MRR1A1BM	1A and 1B	72	288	1152	1.125 x .500 x .500	8.55	8.55
MRR2A2BM	2A and 2B	40	135	800	1.795 x .795 x .495	15.80	15.80
RR2BM	2B	36	144	576	2.938 x .800 x .550	7.75	7.75
RR1CM	1C	288	1152	4600	2.938 x .600 x .550	14.05	14.05
RR1A1BM	1A and 1B	36	144	576	2.938 x .800 x .550	7.75	7.75
RR2A2BM	2A and 2B	18	72	288	2.938 x 1.200 x .550	13.60	13.60
RRLM1CM	1C*	288	1152	4600	2.938 x .600 x .550	13.05	13.05
RRLM-1CM102	1C†	120	480	1920	2.938 x .600 x .550	14.05	14.05
RRFF4-A2BM	‡ ‡	22 45	90 180	360 720	2.938 x 2.100 x .650	26.75	26.75

*Single coil, bistable, magnetic latching type. †Double coil, bistable, magnetic latching type. ‡4A and 2B contacts, of which 2A and 1B available for load handling.

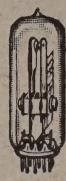
***Specify type number and coil voltage when ordering.**

Relays, Ballasts and Connectors

AMPERITE DELAY RELAYS, FLASHERS AND BALLAST TUBES

ALL RELAYS LISTED ARE UL RECOGNIZED

DELAY RELAYS



Glass Enclosed—Hermetically Sealed—AC, DC or Pulsating Current. Circuits: SPST only—normally open or normally closed. Heater Wattage: The wattage consumed is approx. 2 W. Heaters can be operated continuously. **Contact Rating, Non-Inductive:** Standard Relays, 115 V, 3 amps AC; 220 V, 1 amp. Miniatures, 115 V, 2 amps; 220 V, 1 amp. For 220 V, use a 6500Ω, 5 W resistor in series with 115 V heater. **DC Voltage Breakdown:** 2–10 sec. types, 250 V contact-to-contact, 500 V heater-to-contact; 15–180 sec. types, 800 V. **Contact Drop:** 0.1 V, prox. at 1 amp. **Ambient Temperature:** Compensated for −55° C to +80° C; operable from −80° C to +125° C. Heaters of 26 V or less have better compensation than 115 V heater relays. **Life:** With 115 V, 2 amp AC non-inductive load, at least 250,000 operations. **Bases:** Standard, standard octal. Miniature, 9-pin miniature. Miniature types (designated by suffix T, e.g., 6N05T) available in delays from 2 to 120 sec. Net Each..... **$2.60**

DELAY TOLERANCES (AT 20° C)

Delay Seconds	Tol., Sec.	Delay Seconds	Tol., Sec.	Delay Seconds	Tol., Sec.	Delay Seconds	Tol., Sec.
2	±1½	10	±4	45	±10	120	±35
3	±1½	15	±4	60	±15	150	±35
5	±2½	20	±5	75	±15	180	±45
8	±3	30	±10	90	±20		

NORMALLY OPEN CONTACTS *

Del. Sec.†	HEATER VOLTAGES 2.5 V	5.0 V	6.3 V	12.6 V	26 V (22-30)	50 V	115 V
2	2N02	5N02	6N02	12N02	26N02	50N02	115N02
3	2N03	5N03	**6N03**	12N03	**26N03**	50N03	**115N03**
5	2N05	5N05	**6N05**	12N05	**26N05**	50N05	**115N05**
8	2N08	5N08	**6N08**	12N08	**26N08**	50N08	**115N08**
10	2N010	5N010	**6N010**	12N010	**26N010**	50N010	**115N010**
15	2N015	5N015	**6N015**	12N015	**26N015**	50N015	**115N015**
20	2N020	5N020	**6N020**	12N020	**26N020**	50N020	**115N020**
30	**2N030**	**5N030**	**6N030**	**12N030**	**26N030**	50N030	**115N030**
45	2N045	5N045	**6N045**	12N045	**26N045**	50N045	**115N045**
60	**2N060**	5N060	**6N060**	12N060	**26N060**	50N060	**115N060**
75	2N075	5N075	**6N075**	12N075	**26N075**	50N075	**115N075**
90	2N090	5N090	**6N090**	12N090	**26N090**	50N090	**115N090**
120	2N0120	5N0120	**6N0120**	12N0120	**26N0120**	50N0120	**115N0120**
150	2N0150	5N0150	**6N0150**	12N0150	**26N0150**	50N0150	**115N0150**
180	2N0180	5N0180	**6N0180**	12N0180	**26N0180**	50N0180	**115N0180**

*Bold face type indicates most popular types. †See tolerance table.

NORMALLY CLOSED CONTACTS *

Del. Sec.†	HEATER VOLTAGES 2.5 V	5.0 V	6.3 V	12.6 V	26 V (22-30)	50 V	115 V
2	2C2	5C2	6C2	12C2	26C2	50C2	115C2
3	2C3	5C3	**6C3**	12C3	**26C3**	50C3	**115C3**
5	2C5	5C5	**6C5**	12C5	**26C5**	50C5	**115C5**
8	2C8	5C8	**6C8**	12C8	**26C8**	50C8	**115C8**
10	2C10	5C10	**6C10**	12C10	**26C10**	50C10	**115C10**
15	2C15	5C15	**6C15**	12C15	**26C15**	50C15	**115C15**
20	2C20	5C20	**6C20**	12C20	**26C20**	50C20	**115C20**
30	2C30	5C30	**6C30**	12C30	**26C30**	50C30	**115C30**
45	2C45	5C45	**6C45**	12C45	**26C45**	50C45	**115C45**
60	2C60	5C60	**6C60**	12C60	**26C60**	50C60	**115C60**
75	2C75	5C75	**6C75**	12C75	**26C75**	50C75	**115C75**
90	2C90	5C90	**6C90**	12C90	**26C90**	50C90	**115C90**
120	2C120	5C120	**6C120**	12C120	**26C120**	50C120	**115C120**
150	2C150	5C150	**6C150**	12C150	**26C150**	50C150	**115C150**
180	2C180	5C180	**6C180**	12C180	**26C180**	50C180	**115C180**

*Bold face type indicates most popular types. †See tolerance table.

FLASHER RELAYS

Glass-enclosed, hermetically sealed. Operate approximately ⅓ on, ⅓ off. Percentage time on can be increased by reducing heater voltage. **Heater Wattage:** 1 watt. **Contact Rating, Non-Inductive:** ½ amp AC. **DC Voltage Breakdown:** 250 V contact-to-contact; 500 V heater-to-contact. **Bases:** Standard octal and 9-pin miniature. 115 V flashers obtainable in replacement quantities of 6 or less. Net Each..... **$2.60**

Flashes per Minute*	6.3 V Heater Octal	6.3 V Heater Min.	26 V Heater Octal	26 V Heater Min.	115 V Heater Octal	115 V Heater Min.
30±15	6F30	6F30T	26F30	26F30T	115F30	115F30T
45±15	6F45	6F45T	26F45	26F45T	115F45	115F45T
60±20	6F60	6F60T	26F60	26F60T	115F60	115F60T
75±20	6F75	6F75T	26F75	26F75T	.....	.....
90±25	6F90	6F90T	26F90	26F90T	.....	.....

*Flashes tolerance at 20° C.

AC-DC BALLAST TUBES

Light, compact, with no moving parts. Will withstand vibrations of 10G min. Hermetically sealed; unaffected by altitude or humidity changes. Current values of 60 mA to 5 amps. Threshold voltage 0.4 to 40 volts. Any number of tubes with the same voltage range can be operated in parallel; DO NOT use in series. Approx. average life, 2,000 hours. Will change up to 3% in current if aged 4–8 hours; very little thereafter.

STANDARD BALLAST TUBES—NET EACH $2.00
WRITE FOR COMPLETE LISTING

AMPHENOL CABLE CONNECTORS, TUBE AND RELAY SOCKETS

A B C D E

SHIELDED CABLE CONNECTORS (FIG. A)

With 3-13 cap; available with 3-24 cap. Prices on request.

Amphenol Number	Contacts*	Net Each, Lots of* 1-49	50-99	100-249	250-999	1M-2499
86-PM4	4 M	$0.616	$0.579	$0.505	$0.385	$0.348
86-PM5	5 M	.618	.582	.507	.387	.35
86-PM6	6 M	.642	.604	.528	.402	.363
86-PM7S	7 Small M	.683	.642	.56	.427	.386
86-PM8	8 Octal M	.648	.609	.531	.405	.365
86-PM9	9 M	.66	.62	.541	.413	.373
86-PM11	11 M	.667	.627	.547	.417	.376
86-PM12	12 M	.679	.638	.557	.425	.384
78-PF4	4 F	.536	.504	.44	.335	.302
78-PF5	5 F	.557	.523	.457	.348	.315
78-PF6	6 F	.582	.547	.478	.364	.329
78-PF7S	7 Small F	.607	.57	.498	.379	.342
78-PF8	8 Octal F	.518	.486	.424	.323	.292
78-PF9	9 F	.551	.519	.453	.344	.311
78-PF11	11 F	.597	.562	.49	.373	.338

*F indicates female; M, male.

CP TYPE PLUGS

Mate with std. tube sockets. Panel mt. with retainer ring, 1 3/16" dia. hole; attach to cable with 3-13, -24 cap. Suffix **T**, mica-filled.

86-CP4	4	$0.354	$0.296	$0.265	$0.205	$0.183
86-CP5	5	.358	.30	.267	.208	.185
86-CP6	6	.383	.32	.287	.222	.197
86-CP7S	7	.396	.33	.295	.229	.204
86-CP8	8	.386	.323	.289	.224	.199
86-CP8T	8	.392	.329	.295	.228	.202
86-CP9	9	.396	.331	.296	.231	.204
86-CP11	11	.404	.338	.304	.235	.209
86-CP11T	11	.374	.312	.305	.217	.21
86-CP12	12	.416	.348	.311	.241	.21
86-CP16	16	.417	.349	.312	.242	.208

CAPS

Fig. B and C Types: Rubber grommet types with side outlet for Fig. C style. Takes up to 7/16" diameter cable. Japan black finish except 3-856, clear cadmium finish. **Fig. D Type:** With cable clamp outlet; takes up to ⅜" diameter cable. Clear cadmium finish except 3-24, black epoxy.

Amph. No.	Fig.	Net Each, Lots of* 1-49	50-99	100-249	250-999	1M-2499
3-10*	.....	$0.144	$0.126	$0.114	$0.085	$0.077
3-12†	.....	.161	.139	.125	.092	.085
3-13	B	.189	.168	.142	.107	.098
3-17	C	.279	.246	.217	.161	.147
3-24	D	.316	.281	.244	.184	.167
3-856	D	.332	.292	.254	.191	.172
3-858#	.....	.343	.295	.259	.191	.177

RECESSING SHELLS

Fig. E Type: Aluminum shell mounts 1 3/16" above or below chassis. Fits 1¾" hole, uses three No. 6 screws. **61-61** is cadmium plated steel shell, recesses unit 1 3/16"; mounts in 1 7/16" hole; two 5/32" mounting holes on 1¾" centers.

23-1S	E	$0.279	$0.237	$0.213	$0.169	$0.153
61-61	.....	.168	.144	.132	.12‡	.108§

*Dust cap. †Metal outlet; takes up to 5/16" dia. cable. ‡Lots 250–499. §Lots 500–999. #Black thermoplastic; finger grip style.

F

INDUSTRIAL TUBE SOCKETS AND RELAY SOCKETS

INDUSTRIAL TUBE SOCKETS

Heavy-duty octal sockets. Barrier-protected screw terminals. Top mounting except 146-203, -204 bottom. UL recognized.

Amph. No.	Fig.	Contacts	Net Each, Lots of* 1-49	50-99	100-249	250-999	1000-2499
146-103	F	8	$1.877	$1.66	$1.453	$1.076	$0.984
146-203	F	8	1.877	1.66	1.453	1.076	.984
146-104	F	8	2.335	1.957	1.751	1.35	1.213
146-204	F	8	2.335	1.957	1.751	1.35	1.213

With solderless reversible screw terminals. 600 V rms at 10 amps. May be gang mounted.

146-817	....	11	$4.04	$3.377	$3.033	$2.347	$2.095

RELAY SOCKETS

Amphenol No.	Contacts	Net Each, Lots of* 1-49	50-99	100-249	250-999	1000-2499
59-106	14	$0.687	$0.572	$0.516	$0.401	$0.355
59-133*	14	.618	.561	.458	.412	.366
59-134*	14	.607	.549	.446	.401	.355
59-470	20	9.065	7.577	6.787	5.265	4.692

*UL Recognized.

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST

Special Switches

LINEMASTER FOOTSWITCHES

121-S JUNIOR

491, 492, 494 COMPACT

500, 541

632-635 CLIPPER

4141, 4351 SENIOR

HB-2 CADET

L-2, L-4 LEKTRO-LOK

HT-52 HI-TREADLITE & T-51, T-52 TREADLITE

WP-541 NAUTILUS

Available in 2 types: Momentary contact, press to start, release to stop. Maintained contact, press to start, press to stop.

Linemaster Model No.	Type	Contact Type	Rating	Size, Inches	Weight	Net Ea. 1-9*
121-S	Momentary	SPDT	20 A, 1 hp, 125–250 VAC	5½ x 3¼ x 1¼	1 lb.	$ 9.20
491-D	Maintained	SPST	10 A, 125 VAC	2⅞ x 2½ x 1⅛	7 oz.	4.90
491-S	Momentary	SPDT	10 A, ½ hp, 125–250 VAC	2⅞ x 2½ x 1⅛	7 oz.	3.90
491-SC†	Momentary	SPST-NO	10 A, ½ hp, 125 VAC	2⅞ x 2½ x 1⅛	7 oz.	6.15
491-SC3‡	Momentary	SPST-NO	10 A, ½ hp, 125 VAC	2⅞ x 2½ x 1⅛	7 oz.	7.60
491-SC36#	Momentary	SPST-NO	10 A, ½ hp, 125–250 VAC	2⅞ x 2½ x 1⅛	7 oz.	6.60
492-S	Momentary	SPDT	20 A, 1 hp, 125–250 VAC	2⅞ x 2½ x 1⅛	7 oz.	4.05
494-S	Momentary	DPDT	10 A, 125 VAC; 5 A, 250 VAC	2⅞ x 2½ x 1⅛	7 oz.	7.80
500*	Momentary	SPDT	20 A, 125–250 VAC; 1 hp, 125–250 VAC	8 7/16 x 4 5/16 x 4½	7¼ lbs.	43.00
632-D	Maintained	SPDT	20 A, 1 hp, 125–250 VAC	4½ x 3½ x 1½	2¼ lbs.	11.75
632-S	Momentary	SPDT	20 A, 1 hp, 125–250 VAC	4½ x 3½ x 1½	2¼ lbs.	8.75
633-S	Momentary	SPDT-DB	20 A, 125–250 VAC; ¾ hp, 125 VAC; 1 hp, 250 VAC	4½ x 3½ x 1½	2¼ lbs.	12.00
634-D	Maintained	DPDT	10 A, 125 VAC; 5 A, 250 VAC	4½ x 3½ x 1½	2¼ lbs.	15.00
635-S	Momentary	DPDT	15 A, 125–250 VAC; ½ hp, 125–250 VAC	4½ x 3½ x 1½	2¼ lbs.	10.75
4141-D	Maintained	DPST	20 A, 1 hp, 125–250 VAC/DC, 1-phase	7 x 4 x 3¼	5¼ lbs.	13.80
4141-S	Momentary	DPST	20 A, 1 hp, 125–250 VAC/DC, 1-phase	7 x 4 x 3¼	5¼ lbs.	13.80
4351-D	Maintained	3PST	15 A, 2 hp, 125–250 VAC, 3-phase; 5 A, 2 hp, 575 VAC, 3-phase	7 x 4 x 3¼	5¼ lbs.	16.00
4351-S	Momentary	3PST	15 A, 2 hp, 125–250 VAC, 3-phase; 5 A, 2 hp, 575 VAC, 3-phase	7 x 4 x 3¼	5¼ lbs.	16.00
HB-2†	Momentary	SPST-NO	7 A, ⅙ hp, 125 VAC	3⅝ dia. x 1⅛	11 oz.	6.40
HB-3‡	Momentary	SPST-NO	7 A, ⅙ hp, 125 VAC	3⅝ dia. x 1⅛	11 oz.	7.60
HB-36#	Momentary	SPST-NO	7 A, 125–250 VAC; ⅙ hp, 125 VAC	3⅝ dia. x 1⅛	11 oz.	7.20
HT-52-S	Momentary	SPDT	20 A, 1 hp, 125–250 VAC	3½ x 2½ x 1¼	10 oz.	4.70
L-2-S	2 momentary side-by-side	SPDT each	15 A, ½ hp, 125–250 VAC	5 x 2½ x 1⅛	10 oz.	6.50
L-4-S	2 momentary side-by-side	DPDT each	10 A, 125 VAC; 5 A, 250 VAC	5 x 2½ x 1⅛	10 oz.	12.00
T-51-D	Maintained§	SPDT	7 A, 125–250 VAC; ⅙ hp, 125 VAC	3½ x 2⅝ x 1	7 oz.	4.35
T-51-S	Momentary	SPDT	7 A, 125–250 VAC; ⅙ hp, 125 VAC	3½ x 2⅝ x 1	7 oz.	7.60
T-51-SC†	Momentary	SPST-NO	7 A, ⅙ hp, 125 VAC	3½ x 2⅝ x 1	7 oz.	7.20
T-51-SC3‡	Momentary	SPST-NO	7 A, ⅙ hp, 125 VAC	3½ x 2⅝ x 1	7 oz.	4.70
T-51-SC36#	Momentary	SPST-NO	7 A, 125–250 VAC; ⅙ hp, 125 VAC	3½ x 2⅝ x 1	7 oz.	5.30
T-52-S	Momentary 2-stage•	SPDT each	7 A, 125–250 VAC; ⅙ hp, 125 VAC	3½ x 2⅝ x 1	7 oz.	4.95
WP-541-D■	Maintained	SPDT	12 A, 125 VAC; 6 A, 250 VAC	8 x 4 x 2¼	2½ lbs.	52.00
WP-541-S■	Momentary	SPDT	20 A, 125–250 VAC; Fed. #5930-833-7090	8 x 4 x 2¼	2½ lbs.	52.00

*Potentiometer foot control for variable speed motor drives. Specify maximum resistance required, when ordering: 50, 100, 150, 250, 350, 500, 750, 1000, 1500, 2000, 2500, 3500, 5000, 7500, 10K, 15K, 20K, 25K, 35K, 50K, 75K, 100K, 150K, 200K, 250K, 350K, 500K, 750K, 1 meg, 1.5 megs, 2 megs, 2.5 megs, 3.5 megs or 5 megs. †With 2-conductor cord and plug. ‡With 3-cond. cord and plug. §Positive, over center rocker-type contact. #With 3-cond. cord, but no plug. •Two interiors: A partial stroke on treadle activates one; added pressure (with distinct "feel") activates second. ■Waterproof, oilproof, dustproof and rustproof.

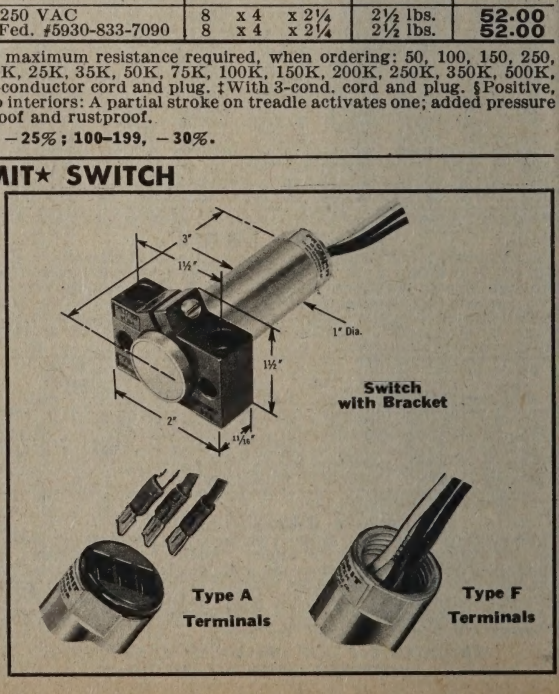
***Quantity Discounts, Lots of: 10–19, −10%; 20–49, −20%; 50–99, −25%; 100–199, −30%.**

TANN PROXIMIT★ SWITCH

Self-contained control device for rapid, close tolerance switching without physical contact. Actuates when a ferrous material reaches or leaves a position within the range of the switch sensing face. Typical uses are for position limiting, sequencing, timing sensing, counting, programming and safety controlling. Used widely on machine tools, material handling equipment, packaging machinery, industrial processing equipment, etc. Ideally suited for limited space installations. Eliminates need for mechanical levers, cams and plungers; no external amplifier needed. Operates reliably under the most severe cycling conditions for long, maintenance-free life. Magnetically shielded; impervious to chips, dirt and liquid spray; unaffected by normal vibration and shock. Universal mounting bracket is available to provide quick, easy mounting and position adjustment. **Current Rating:** 6 amps. **Power Rating:** 660 watts. **Electrical Life:** 10–20 million cycles at ½-amp resistive load. **Mechanical Life:** 50 million cycles. **Response Time:** 1 msec max. On-to-Off or Off-to-On. **Contacts:** Gold-plated silver-cadmium alloy. **Housing:** Plated steel 1″ dia. x 3″ long; bracket, 2″ w. x 1 1/16″ d. x 1½″ h. **Terminals:** Models with suffix **A** (e.g., 1032**A**) have quick disconnect, push-on terminals; suffix **F** (e.g., 1032**F**), standard ½″ conduit pipe thread with potted, 6-ft. permanent leads. *Trademark.

Tann Number	Sensing Range On	Sensing Range Off	Net Each, Lots of 1-9	10-24	25-49	50 Up
1032A*	1/32″	1/16″	$32.00	$28.80	$28.16	$27.20
1060A†	1/16″	⅛″	32.00	28.80	28.16	27.20
1032F*	1/32″	1/16″	32.00	28.80	28.16	27.20
1060F†	1/16″	⅛″	32.00	28.80	28.16	27.20
10-MB	Mounting bracket		1.00	1.00	1.00	1.00

*Repeatability ±.003. †Repeatability ±.010.

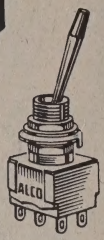


MST-115D

MST-305

MTA

MTF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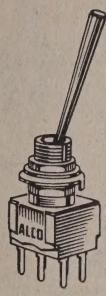
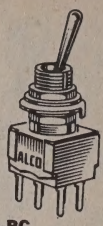

MTT-PC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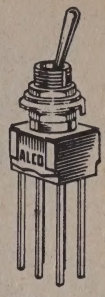

MTA-WW

MST MINIATURE TOGGLE SWITCHES

Slim, bat handle toggle switches for miniature applications with limited back-of-panel clearance. Terminals and contacts are solid silver (center terminal, copper with silver plate). Case material, black phenolic resin; ¼-40 threaded bushing. Rated 5 amps at 115 VAC. Offering high capacity for small size, SPDT and DPDT types have life cycle of over 80,000 on-off operations; 3PDT and 4PDT, over 20,000. High voltage barriers between terminals and contacts; 1 piece body. Suffix **45**, min. flat handle type. Suffix **-1**, switches with full throw of 28°, no center position.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MST-105D	SPDT‡	On-none-on	$1.75	$1.31	$1.19	$1.10
MST-105E	SPDT	On-off-on	2.05	1.54	1.39	1.29
MST-105F	SPDT	None-on-on†	2.05	1.54	1.39	1.29
MST-105F-1	SPDT	On-none-on†	2.05	1.54	1.39	1.29
MST-105G	SPDT	On†-off-on†	2.05	1.54	1.39	1.29
MST-105H	SPDT	On-off-on†	2.05	1.54	1.39	1.29
MST-115D*	SPDT	On-none-on	1.80	1.35	1.22	1.13
MST-205N	DPDT‡	On-none-on	2.30	1.73	1.56	1.45
MST-205P	DPDT	On-off-on	2.70	2.03	1.84	1.70
MST-205PA	DPDT‡	On-on-on	2.95	2.21	2.01	1.86
MST-205R	DPDT	None-on-on†	2.70	2.03	1.84	1.70
MST-205R-1	DPDT	On-none-on†	2.70	2.03	1.84	1.70
MST-205S	DPDT	On†-off-on†	2.70	2.03	1.84	1.70
MST-205SA	DPDT‡	On†-on-on†	3.25	2.44	2.21	2.05
MST-205T	DPDT	On-off-on†	2.70	2.03	1.84	1.70
MST-205TA	DPDT‡	On-on-on†	3.25	2.44	2.21	2.05
MST-215N*	DPDT	On-none-on	2.35	1.76	1.60	1.48
MST-305D	3PDT	On-none-on	3.90	2.93	2.65	2.46
MST-305E	3PDT	On-off-on	4.20	3.15	2.86	2.65
MST-305F	3PDT	None-on-on†	4.20	3.15	2.86	2.65
MST-305H	3PDT	On-off-on†	4.20	3.15	2.86	2.65
MST-315D*	3PDT	On-none-on	3.95	2.96	2.69	2.49
MST-405N	4PDT	On-none-on	5.00	3.75	3.40	3.15
MST-405P	4PDT	On-off-on	5.40	4.05	3.67	3.40
MST-415N*	4PDT	On-none-on	5.05	3.79	3.43	3.18

MINIATURE TOGGLE SWITCHES WITH PC TERMINALS AND WIRE WRAP TERMINALS

Features a switch with printed circuit or wire-wrap terminals, available in 1 through 4 poles with several switching options. Gold flash on terminals and contacts to retard oxidation.

MTA-106D-PC	SPDT	On-none-on	$1.85	$1.39	$1.26	$1.17
MTA-106E-PC	SPDT	On-off-on	2.15	1.61	1.46	1.35
MTA-106F-PC	SPDT	On-none-on†	2.15	1.61	1.46	1.35
MTA-106G-PC	SPDT	On†-off-on†	2.15	1.61	1.46	1.35
MTA-106H-PC	SPDT	On-off-on†	2.15	1.61	1.46	1.35
MTA-206N-PC	DPDT	On-none-on	2.55	1.91	1.73	1.61
MTA-206P-PC	DPDT	On-off-on	2.90	2.18	1.97	1.83
MTA-206R-PC	DPDT	On-none-on†	2.90	2.18	1.97	1.83
MTA-206S-PC	DPDT	On†-off-on†	2.90	2.18	1.97	1.83
MTA-206T-PC	DPDT	On-off-on†	2.90	2.18	1.97	1.83
MTA-206PA-PC	DPDT	On-on-on	3.15	2.36	2.14	1.98
MTA-306D-PC	3PDT	On-none-on	4.20	3.15	2.86	2.65
MTA-306E-PC	3PDT	On-off-on	4.50	3.38	3.06	2.84
MTA-306F-PC	3PDT	On-none-on†	4.50	3.38	3.06	2.84
MTA-306H-PC	3PDT	On-off-on†	4.50	3.38	3.06	2.84
MTA-406N-PC	4PDT	On-none-on	5.40	4.05	3.67	3.40
MTA-406P-PC	4PDT	On-off-on	5.80	4.35	3.94	3.65
MTA-406PA-PC	4PDT	On-on-on	6.55	4.91	4.45	4.13
MTA-106D-WW	SPDT	On-none-on	$2.00			
MTA-106E-WW	SPDT	On-off-on	2.30			
MTA-206N-WW	DPDT	On-none-on	2.85			
MTA-206P-WW	DPDT	On-off-on	3.20			
MTA-306D-WW	3PDT	On-none-on	4.50			
MTA-406N-WW	4PDT	On-none-on	6.00			

*With white cap. †Momentary positions. ‡Usable as SP3T; wiring on request. §Rocker. #For MST, A, E, specify red, white, black, blue, gray, green, yellow or pink. •Pkg. of 25. ▲Flat lever. ♦Paddle. ΙUL Listed E46765 available on special order, others can be UL Listed by contract. ‡Long lever.

MINIATURE TOGGLE SWITCHES

Series features miniature bat handle toggle that has molded-in lug terminals which are permanently heat sealed to eliminate contact contamination. Rated 6 amps @ 125 VAC, 3 amps @ 250 VAC. Enlarged terminal holes will accept up to two 20 AWG solid or standard wires.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTA-106D	SPDTΙ	On-none-on	$1.75	$1.31	$1.19	$1.10
MTA-106E	SPDT	On-off-on	2.05	1.54	1.39	1.29
MTA-106F	SPDT	None-on-on†	2.05	1.54	1.39	1.29
MTA-106G	SPDT	On†-off-on†	2.05	1.54	1.39	1.29
MTA-106H	SPDT	On-off-on†	2.05	1.54	1.39	1.29
MTA-206N	DPDT	On-none-on	2.35	1.76	1.60	1.48
MTA-206P	DPDT	On-off-on	2.70	2.03	1.84	1.70
MTA-206R	DPDT	None-on-on†	2.70	2.03	1.84	1.70
MTA-206S	DPDT	On†-off-on†	2.70	2.03	1.84	1.70
MTA-206T	DPDT	On-off-on†	2.70	2.03	1.84	1.70
MTA-206PA	DPDT‡	On-on-on	2.95	2.21	2.01	1.86
MTA-306D	3PDT	On-none-on	3.90	2.93	2.65	2.46
MTA-306E	3PDT	On-off-on	4.20	3.15	2.86	2.65
MTA-406N	4PDT	On-none-on	5.00	3.75	3.40	3.15
MTA-406P	4PDT	On-off-on	5.40	4.05	3.67	3.40
MTA-406PA	4P3T	On-on-on	6.15	4.61	4.18	3.87

FLAT LEVER MINIATURE TOGGLE SWITCHES

Features a matte finish flat lever actuator and decorative hardware. "No Tear" shoulders on a ¼" bushing reduces the possibility of torque damage while the switch is being mounted.

MTF-106D	SPDT	On-none-on	$2.25	$1.69	$1.53	$1.42
MTF-106E	SPDT	On-off-on	2.55	1.91	1.73	1.61
MTF-106F	SPDT	On-none-on†	2.55	1.91	1.73	1.61
MTF-106G	SPDT	On†-off-on†	2.55	1.91	1.73	1.61
MTF-106H	SPDT	On-off-on†	2.55	1.91	1.73	1.61
MTF-206N	DPDT	On-none-on	2.85	2.14	1.94	1.80
MTF-206P	DPDT	On-off-on	3.20	2.40	2.18	2.02
MTF-206R	DPDT	On-none-on†	3.20	2.40	2.18	2.02
MTF-206S	DPDT	On†-off-on†	3.20	2.40	2.18	2.02
MTF-206T	DPDT	On-off-on†	3.20	2.40	2.18	2.02
MTF-206PA	DPDT	On-on-on	3.45	2.59	2.35	2.17
MTF-206SA	DPDT	On†-on-on†	3.45	2.59	2.35	2.17
MTF-306D	3PDT	On-none-on	4.40	3.30	2.99	2.77
MTF-406N	4PDT	On-none-on	5.50	4.13	3.74	3.47

BATON LEVER MINIATURE TOGGLE SWITCHES

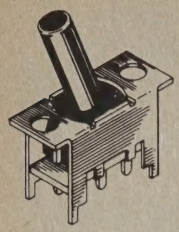
A baton lever is featured with a black nylon tip on the chrome plated toggle. Molded in copper terminals with gold finish to provide soldering ease and retard oxidation.

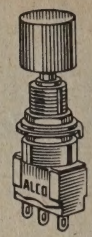
MTB-106D	SPDT	On-none-on	$1.85	$1.39	$1.26	$1.17
MTB-106E	SPDT	On-off-on	2.15	1.61	1.46	1.35
MTB-106F	SPDT	On-none-on†	2.15	1.61	1.46	1.35
MTB-106G	SPDT	On†-off-on†	2.15	1.61	1.46	1.35
MTB-106H	SPDT	On-off-on†	2.15	1.61	1.46	1.35
MTB-206N	DPDT	On-none-on	2.45	1.84	1.67	1.54
MTB-206P	DPDT	On-off-on	2.80	2.10	1.90	1.76
MTB-206R	DPDT	On-none-on†	2.80	2.10	1.90	1.76
MTB-206S	DPDT	On†-off-on†	2.80	2.10	1.90	1.76
MTB-206T	DPDT	On-off-on†	2.80	2.10	1.90	1.76
MTB-206PA	DPDT	On-on-on	3.05	2.29	2.07	1.92
MTB-306D	3PDT	On-none-on	4.00	3.00	2.72	2.52
MTB-406N	4PDT	On-none-on	5.10	3.83	3.47	3.21

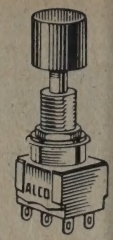
LONG LEVER MINIATURE TOGGLE SWITCHES WITH PC TERMINALS

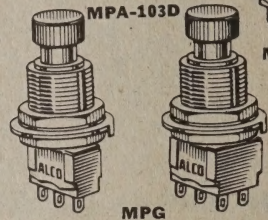
High current carrying miniature switch designed for printed circuit applications. Available in 1 through 4 poles with positive or momentary detent action.

MTT-106D-PC	SPDT	On-none-on	$1.90	$1.43	$1.29	$1.20
MTT-106E-PC	SPDT	On-off-on	2.20	1.65	1.50	1.39
MTT-106F-PC	SPDT	On-none-on†	2.20	1.65	1.50	1.39
MTT-106G-PC	SPDT	On†-off-on†	2.20	1.65	1.50	1.39
MTT-106H-PC	SPDT	On-off-on†	2.20	1.65	1.50	1.39
MTT-206N-PC	DPDT	On-none-on	2.60	1.95	1.77	1.64
MTT-206P-PC	DPDT	On-off-on	2.95	2.21	2.01	1.86
MTT-206R-PC	DPDT	On-none-on†	2.95	2.21	2.01	1.86
MTT-206S-PC	DPDT	On†-off-on†	2.95	2.21	2.01	1.86
MTT-206T-PC	DPDT	On-off-on†	2.95	2.21	2.01	1.86
MTT-206PA-PC	DPDT	On-on-on	3.20	2.40	2.18	2.02
MTT-306D-PC	3PDT	On-none-on	4.25	3.19	2.89	2.68
MTT-406N-PC	4PDT	On-none-on	5.45	4.09	3.71	3.43









CST SERIES TOGGLE SWITCHES

Low-cost baton lever toggles. DPDT, 3 mA at 125 VAC. Position wiping for low contact resistance. Sealed terminals prevent wicking.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
CST-022	DPDT	$0.85	$0.64	$0.58	$0.54
CST-022-1	DPDT	1.10	.83	.75	.69
CST-022S	DPDT	1.20	.90	.82	.76
CST-022N	DPDT	1.20	.90	.82	.76
CST-023	DP3T	1.35	1.01	.92	.85
CST-042S	4PDT	1.55	1.16	1.05	.98
CST-042N	4PDT	1.55	1.16	1.05	.98
CST-043	4P3T	1.70	1.28	1.16	1.07

MSP SERIES MINIATURE PUSHBUTTON SWITCHES

MSP-105, MSP-205—Snap action. Rated 5 A, 115 VAC. Solid silver contacts and terminals. Bushing ¼"-40 with keyway. Black phenolic case. Life, 25,000 cycles. **MSPE**—Waterproof with double "O" seals. Double throw action. Rated 6 A resistive, 2 A inductive at 125 VAC. Turret terminals. "E" Series case. **MSP-103**—Economy, low pressure operation. Rated 3 A, 125 VAC. Silver-plated brass contacts and terminals. Plunger travel, .098". Bushing ¼"-40. Depth behind panel, ¼". **MSPS-103C**—Similar to MSP-103, but smaller diameter, .310". Rated 0.1 A at 125 VAC.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-99	100-499	500-999
MSP-105D*	SPDT	Push on-off	$2.35	$1.60	$1.41	$1.18
MSP-105F*	SPDT	Momentary	2.35	1.60	1.41	1.18
MSP-205N*	DPDT	Push on-off	3.20	2.18	1.92	1.60
MSP-205R*	DPDT	Momentary	3.20	2.18	1.92	1.60
MSP-103B†	SPST	Norm. closed	.85	.58	.51	.47
MSP-103C‡	SPST	Norm. open	.85	.58	.51	.47
MSP-103C-B†	SPST	Norm. open	.85	.58	.51	.47
MSPS-103C‡	SPST	Norm. open	.65	.44	.39	.36
MSPS-103B†	SPST	Norm. closed	.65	.44	.39	.36
C-12*	Extra plastic button		.15	.10	.09	.085
C-13*	Large button		.18	.11	.10	.09
C-14	Chrome button (thin)		.10	.07	.06	.055
C-14L	Chrome button		.15	.10	.09	.085
C-5	For MPA-3 Series		.08	.06	.05	.045
C-8	For MPA-3 Series		.10	.07	.06	.055
C-9	For MPG Series		.08	.06	.05	.045
C-10	For MTA and MTE		.05	.045	.040	.030
C-15	For MTG Series		.08	.06	.05	.045
C-17	For MTA and MTE		.05	.045	.040	.030
C-22	Small button		.10	.07	.06	.055
C-23	Large button		.12	.09	.08	.07
G-12#	Plain guard for C-12		.35	.24	.21	.19
G-12-K#	Knurl guard for C-12		.40	.27	.24	.22
G-13#	Plain guard for C-13		.40	.27	.24	.22
G-13-K#	Knurl guard for G-13		.45	.31	.27	.25

*Specify red, green or black plastic button. †With black button. ‡With red button. #Add suffix for finish: **C**, chrome; **A**, aluminum; **B**, black.

SUBMINIATURE PUSHBUTTON SWITCHES

Subminiature pushbutton switch with one piece bushing and case construction. Current Rating: 3 amps @ 125 VAC D & F Series, 1 amp @ 125 VAC B & C Series.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPA-103B	SPST	N. C. Mom.	$1.40	$1.05	$ .95	$ .88
MPA-103C	SPST	N. O. Mom	1.40	1.05	.95	.88
MPA-103D	SPDT	Push on/off	2.75	2.06	1.87	1.73
MPA-103F	SPDT	Momentary	2.75	2.06	1.87	1.73

Supplied less cap, order C-5 or C-8.

MINIATURE PUSHBUTTON SWITCHES

A snap action switch with a current rating of 6 amps @ 125 VAC. All models are double throw with choice of Push-On/Push-Off or Momentary action. All hardware supplied.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPA-106D	SPDT	Push on/off	$2.65	$1.99	$1.80	$1.67
MPA-106F	SPDT	Momentary	2.65	1.99	1.80	1.67
MPA-206N	DPDT	Push on/off	3.55	2.66	2.41	2.24
MPA-206R	DPDT	Momentary	3.55	2.66	2.41	2.24
MPA-306D	3PDT	Push on/off	4.85	3.64	3.30	3.06
MPA-306F	3DPT	Momentary	4.85	3.64	3.30	3.06
MPA-406N	4PDT	Push on/off	5.85	4.39	3.98	3.69
MPA-406R	4PDT	Momentary	5.85	4.39	3.98	3.69

Supplied with black C-22 button.

WATERPROOF MINIATURE PUSHBUTTON SWITCHES

A splashproof pushbutton switch designed for environmental use. "O" rings are located on shoulder and inside to assure splashproof performance. Contact rating: 6 amps @ 125 VAC, 3 amps @ 250 VAC. All hardware supplied.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPE-106D	SPDT	Push on/off	$3.05	$2.29	$2.07	$1.92
MPE-106F	SPDT	Momentary	3.05	2.29	2.07	1.92
MPE-206N	DPDT	Push on/off	3.95	2.96	2.69	2.49
MPE-206R	DPDT	Momentary	3.95	2.96	2.69	2.49
MPE-306D	3PDT	Push on/off	5.25	3.94	3.57	3.31
MPE-306F	3PDT	Momentary	5.25	3.94	3.57	3.31
MPE-406N	4PDT	Push on/off	6.25	4.69	4.25	3.94
MPE-406R	4PDT	Momentary	6.25	4.69	4.25	3.94

Supplied with black C-22 button.

"MUSTANG" MINIATURE PUSHBUTTON SWITCHES

Have a 15/32" bushings with a miniature ½" case. Snap action allows a 6 amp rating @ 125 VAC or 3 amps @ 250 VAC. Lug terminals or PC terminals available.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPG-106D	SPDT	Push on/off	$2.90	$2.18	$1.97	$1.83
MPG-106F	SPDT	Momentary	2.90	2.18	1.97	1.83
MPG-206N	DPDT	Push on/off	3.80	2.85	2.58	2.39
MPG-206R	DPDT	Momentary	3.80	2.85	2.58	2.39
MPG-306D	3PDT	Push on/off	5.10	3.83	3.47	3.21
MPG-306F	3PDT	Momentary	5.10	3.83	3.47	3.21
MPG-406N	4PDT	Push on/off	6.10	4.58	4.15	3.84
MPG-406R	4PDT	Momentary	6.10	4.58	4.15	3.84
MPG-206N-PC	DPDT	Push on/off	3.95	2.96	2.69	2.49
MPG-206R-PC	DPDT	Momentary	3.95	2.96	2.69	2.49
MPG-306D-PC	3PDT	Push on/off	5.30	3.98	3.60	3.34
MPG-306F-PC	3PDT	Momentary	5.30	3.98	3.60	3.34
MPG-406N-PC	4PDT	Push on/off	6.35	4.76	4.32	4.00
MPG-406R-PC	4PDT	Momentary	6.35	4.76	4.32	4.00

Supplied with Black C-9 cap only.

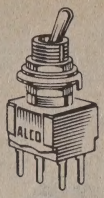
MINIATURE ROTARY SWITCHES

MRB adjustable stop switches are rated 150 ma @ 115 VAC. The MRB-( )-S series is a 36° rotary switch with adjustable stops from two to ten positions and is also available with 30° detent. It can be adjusted to stop from two to twelve positions. The suffix "S" indicates long shaft and the suffix "PC" indicates printed circuit mounting. The suffix "C" indicates continuous rotation.

Alcoswitch No.	Poles	Positions	Net Each, Lots of 1-24	25-49	50-99	100-249
MRB-1-10S	1	2-10	$ 6.75	$5.06	$4.59	$4.25
MRB-1-10SC	1	2-10	6.75	5.06	4.59	4.25
MRB-2-5S	2	2-5	7.75	5.81	5.27	4.88
MRB-3-3S	3	2-3	8.45	6.34	5.75	5.32
MRB-1-10S-PC	1	2-10	7.25	5.44	4.93	4.57
MRB-1-10SC-PC	1	2-10	7.25	5.44	4.93	4.57
MRB-2-5S-PC	2	2-5	8.25	6.19	5.61	5.20
MRB-3-3S-PC	3	2-3	8.95	6.71	6.09	5.64
MRB-1-12S†	1	2-12	7.95	5.96	5.41	5.01
MRB-1-12SC†	1	2-12	7.95	5.96	5.41	5.01
MRB-2-6S†	2	2-6	8.55	6.41	5.81	5.39
MRB-4-3S†	4	2-3	9.55	7.16	6.49	6.02
MRB-1-12S-PC†	1	2-12	8.45	6.34	5.75	5.32
MRB-1-12SC-PC†	1	2-12	8.45	6.34	5.75	5.32
MRB-2-6S-PC†	2	2-6	9.05	6.79	6.15	5.70
MRB-4-3S-PC†	4	2-3	10.05	7.54	6.83	6.33
MRB-1-10	1	2-10	6.75	5.06	4.59	4.25
MRB-1-10C	1	2-10	6.75	5.06	4.59	4.25
MRB-2-5	2	2-5	7.75	5.81	5.27	4.88
MRB-3-3	3	2-3	8.45	6.34	5.75	5.32
MRB-1-10-PC	1	2-10	7.25	5.44	4.93	4.57
MRB-1-10C-PC	1	2-10	7.25	5.44	4.93	4.57
MRB-2-5-PC	2	2-5	8.25	6.19	5.61	5.20
MRB-3-3-PC	3	2-3	8.95	6.71	6.09	5.64

†30° Detent

MTE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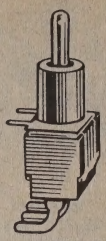
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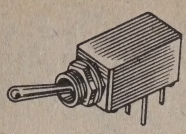
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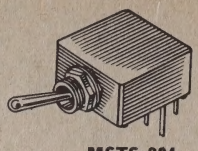
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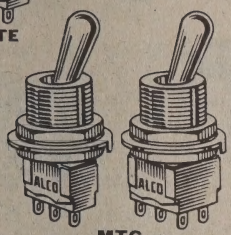
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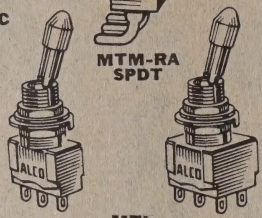
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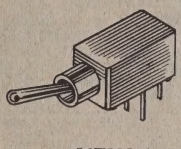
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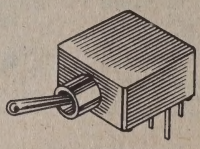
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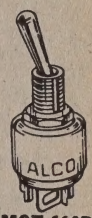

MCT-110D

WATERPROOF TOGGLE SWITCHES

New case design with high voltage barriers, low loss, high impact materials. Turret terminals. Bonded silver contacts rated 6 amps at 125 VAC. Neoprene "O" rings, permanently sealed terminals.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTE-106D	SPDT	On-none-on	$2.15	$1.61	$1.46	$1.35
MTE-106E	SPDT	On-off-on	2.45	1.84	1.67	1.54
MTE-106F	SPDT	None-on-on†	2.45	1.84	1.67	1.54
MTE-106G	SPDT	On†-off-on†	2.45	1.84	1.67	1.54
MTE-106H	SPDT	On-off-on†	2.45	1.84	1.67	1.54
MTE-206N	DPDT	On-none-on	2.75	2.06	1.87	1.73
MTE-206P	DPDT	On-off-on	3.10	2.33	2.11	1.95
MTE-206PA	DPDT‡	On-on-on	3.35	2.51	2.28	2.11
MTE-206R	DPDT	None-on-on†	3.10	2.33	2.11	1.95
MTE-206S	DPDT	On†-off-on†	3.10	2.33	2.11	1.95
MTE-206T	DPDT	On-off-on†	3.10	2.33	2.11	1.95
MTE-306D	3PDT	On-none-on	4.30	3.23	2.92	2.71
MTE-306E	3PDT	On-off-on	4.60	3.45	3.13	2.90
MTE-406N	4PDT	On-none-on	5.40	4.05	3.67	3.40
MTE-406P	4PDT	On-off-on	5.80	4.35	3.94	3.65
C-10•	Plastic cap#		.05	.045	.04	.03
C-17•	Flat top cap#		.05	.045	.04	.03
N-1A•	¼-40 "Perfect Fit" nut		.12	.09	.08	.07

SHORT LEVER MINIATURE TOGGLE SWITCHES WITH PC TERMINALS

This series is designed for printed circuit applications and has high current carrying capabilities. It is available in 1, 2, 3 and 4 pole configurations, all with double throw. Choice of momentary or positive detent.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTM-106D-PC	SPDT	On-none-on	$1.85	$1.39	$1.26	$1.17
MTM-106E-PC	SPDT	On-off-on	2.15	1.61	1.46	1.35
MTM-106F-PC	SPDT	On-none-on†	2.15	1.61	1.46	1.35
MTM-106G-PC	SPDT	On†-off-on†	2.15	1.61	1.46	1.35
MTM-106H-PC	SPDT	On-off-on†	2.15	1.61	1.46	1.35
MTM-206N-PC	DPDT	On-none-on	2.55	1.91	1.73	1.61
MTM-206P-PC	DPDT	On-off-on	2.90	2.18	1.97	1.83
MTM-206R-PC	DPDT	On-none-on†	2.90	2.18	1.97	1.83
MTM-206S-PC	DPDT	On†-off-on†	2.90	2.18	1.97	1.83
MTM-206T-PC	DPDT	On-off-on†	2.90	2.18	1.97	1.83
MTM-206PA-PC	DPDT	On-on-on	3.15	2.36	2.14	1.98
MTM-306D-PC	3PDT	On-none-on	4.20	3.15	2.86	2.65
MTM-406N-PC	4PDT	On-none-on	5.40	4.05	3.67	3.40

MINIATURE TOGGLE SWITCHES WITH RIGHT ANGLE PC TERMINALS

Designed for space saving applications requiring right angle printed circuit mounting. Uses a ¼" unthreaded bushing for non-permanent mounting.

MTM-106D-RA	SPDT	On-none-on	$2.10	$1.58	$1.43	$1.32
MTM-106E-RA	SPDT	On-off-on	2.40	1.80	1.63	1.51
MTM-106F-RA	SPDT	On-none-on†	2.40	1.80	1.63	1.51
MTM-206N-RA	DPDT	On-none-on	3.05	2.29	2.07	1.92
MTM-206P-RA	DPDT	On-off-on	3.40	2.55	2.31	2.14
MTM-206R-RA	DPDT	On-none-on†	3.40	2.55	2.31	2.14

MINIATURE RIGHT ANGLE TOGGLE SWITCHES WITH PC TERMINALS AND THREADED BUSHING

New right angle switch with printed circuit terminals and ¼-40 threaded bushing for panel mounting.

MSTS-104D	SPDT	On-none-on	$1.85	$1.39	$1.26	$1.17
MSTS-204D	DPDT	On-none-on	2.55	1.91	1.73	1.61
MSTS-104DG	SPDT	On-none-on	2.15	1.64	1.51	1.42
MSTS-204NG	DPDT	On-none-on	3.15	2.41	2.23	2.11

*With white cap. †Momentary positions. ‡Usable as SP3T; wiring on request. §Rocker. #For MST, A, E, specify red, white, black, blue, gray, green, yellow or pink. •Pkg. of 25.

MINIATURE RIGHT ANGLE TOGGLE SWITCHES WITH PC TERMINALS AND PLAIN BUSHING

Same as above but with plain bushing.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTMS-104D	SPDT	On-none-on	$1.65	$1.24	$1.12	$1.04
MTMS-204N	DPDT	On-none-on	2.35	1.76	1.60	1.48
MTMS-104DG	SPDT	On-none-on	1.95	1.49	1.37	1.29
MTMS-204NG	DPDT	On-none-on	2.95	2.26	2.10	1.98

MTG "MUSTANG" TOGGLE SWITCHES

Features a standard 15/32" hole mounting, but with a rear space requirement of a miniature switch. Case construction of low loss, high impact and temperature materials with turret terminals and bonded silver contacts. Rated 6 amps at 125 VAC.

MTG-106D	SPDT	On-none-on	$2.30	$1.73	$1.56	$1.45
MTG-106E	SPDT	On-off-on	2.60	1.95	1.77	1.64
MTG-206N	DPDT	On-none-on	2.90	2.18	1.97	1.83
MTG-206P	DPDT	On-off-on	3.25	2.44	2.21	2.05
MTG-206PA	DPDT‡	On-on-on	3.50	2.63	2.38	2.21
MTG-306D	3PDT	On-none-on	4.45	3.34	3.03	2.80
MTG-306E	3PDT	On-off-on	4.75	3.56	3.23	2.99
MTG-406N	4PDT	On-none-on	5.55	4.16	3.77	3.50
MTG-406P	4PDT	On-off-on	5.95	4.46	4.05	3.75
C-15†	Plastic cap‡		.06	.05	.04	.035
N-1B†	15/32" Perfect fit nut		.15	.10	.09	.08

*Usable as SP3T; wiring on request. †Pkg. of 25. ‡Specify red, white, black, blue or green.

MTL MINIATURE LOCKING SWITCHES

Accident-proof "lever-lock" toggles for hazardous switching operations. Low-loss, high-impact ½" case has high voltage barriers. Rated 6 amps at 125 VAC. With positive grip handles.

MTL-106D	SPDT	On-none-on	$3.00	$2.25	$2.04	$1.89
MTL-106E	SPDT	On-off-on	3.30	2.48	2.24	2.08
MTL-106F	SPDT	None-on-on†	3.30	2.48	2.24	2.08
MTL-106G	SPDT	On†-off-on†	3.30	2.48	2.24	2.08
MTL-206N	DPDT	On-none-on	3.60	2.70	2.45	2.27
MTL-206P	DPDT	On-off-on	3.95	2.96	2.67	2.49
MTL-206PA	DPDT‡	On-on-on	4.20	3.15	2.86	2.65
MTL-206R	DPDT	None-on-on†	4.20	3.15	2.86	2.65
MTL-206S	DPDT	On†-off-on†	3.95	2.96	2.67	2.49
MTL-306D	3PDT	On-none-on	5.15	3.86	3.50	3.24
MTL-306E	3PDT	On-off-on	5.15	3.86	3.50	3.24
MTL-406N	4PDT	On-none-on	6.25	4.69	4.25	3.94
MTL-406P	4PDT	On-off-on	6.25	4.69	4.25	3.94
MTL-406PA	4P3T	On-on-on	6.25	4.69	4.25	3.94
C-16*	Color-coded caps		.18	.12	.11	.10
C-16K	Natural knurled caps		.20	.14	.12	.11

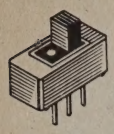
*Switches are supplied with natural knurled aluminum caps. Extra caps available in red, blue, green, black. Specify color. †Momentary positions. ‡Usable as SP3T; wiring on request.

MCT MINIATURE TOGGLE SWITCHES

Cylindrical case for positive feel and reliability in smallest size possible. All metal construction with high impact terminal insulator for use in all environmental conditions. Toggle lever, 0.618" long with black tip for distinctive look. Rated 10 A at 125 VAC. Contact material is silver on copper. Internal contact resistance, under 20 milliohms at 1 amp, 2-4 VDC; life, 250,000 on-off operations. Suffix **-50** indicates Baton lever type.

MCT-110D▲	SPDT‡	On-none-on	$1.75	$1.31	$1.19	$1.10
MCT-210N▲	DPDT‡	On-none-on	2.30	1.73	1.56	1.45
MCTG-110D■	SPDT‡	On-none-on	1.95	1.46	1.33	1.23
MCTG-210N■	DPDT‡	On-none-on	2.55	1.91	1.73	1.61
MCT-110D49	SPDT	On-none-on	2.25	1.69	1.53	1.42
MCT-210N49	DPDT	On-none-on	2.85	2.14	1.94	1.80
MCT-110D50	SPDT	On-none-on	1.85	1.39	1.26	1.17
MCT-210N50	DPDT	On-none-on	2.45	1.84	1.67	1.54

▲With miniature ¼-40 bushings. ■With standard 15/32" bushing. ‡UL Listed E46765 available on special order; others can be UL Listed by contract.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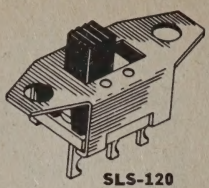
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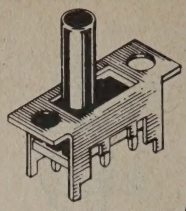
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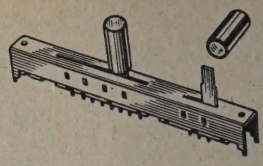
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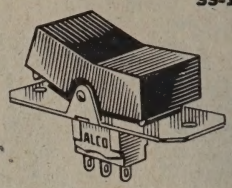


MRL

MSD-106D

FR-105A1

MINIATURE PC SLIDE SWITCHES

Instrument grade miniature slide switches designed for printed circuit board mounting. Primarily for use in programming, test apparatus and other instrumentation applications. All models available in SPDT and DPDT except the right angle models (**RA**). Rated at 2 amps @ 230 VAC and 4 amps @ 115 VAC. "**G**" suffix indicates gold plated terminals.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MSS-104D	1 Pole, 2 Pos., upright	$1.55	$1.05	$0.93	$0.78
MSS-104D-RA	1 Pole, 2 Pos., right angle	1.65	1.12	.99	.83
MSS-104D-1	1 Pole, 2 Pos., flush	1.55	1.05	.93	.78
MSS-204N	2 Poles, 2 Pos., upright	2.10	1.43	1.26	1.05
MSS-204N-1	2 Poles, 2 Pos., flush	2.10	1.43	1.26	1.05
MSS-104DG	1 Pole, 2 Pos., upright	1.85	1.30	1.18	1.03
MSS-104DG-RA	1 Pole, 2 Pos., right angle	1.95	1.37	1.24	1.08
MSS-104DG-1	1 Pole, 2 Pos., flush	1.85	1.30	1.18	1.03
MSS-204NG	2 Poles, 2 Pos., upright	2.70	1.93	1.76	1.55
MSS-204NG-1	2 Poles, 2 Pos., flush	2.70	1.93	1.76	1.55

SLS MINIATURE SLIDE SWITCHES

Economical miniature slide switch, 5/16" wide and approximately 3/4" long. Rated at 0.5 amps @ 125 VAC with the 121M series rated at 0.3 amps @ 125 VAC.

SLS-120	SPDT, w/Tabs	$1.25	$0.85	$0.63	$0.25
SLS-120-1	SPDT, w/o Tabs	1.25	.85	.63	.25
SLS-121M	SPDT, w/Tabs & PC terminals	1.45	.99	.73	.29
SLS-121M-1	SPDT, w/o Tabs, w/PC terminals	1.45	.99	.73	.29
SLS-121M-RA	SPDT, w/o Tabs, w/PC terminals	1.65	1.12	.83	.33
SLS-130-PC	SP3P, w/o Tabs, w/PC terminals	1.85	1.26	.93	.37
SLS-220	DPDT, w/Tabs	1.55	1.05	.78	.31
SLS-220-1	DPDT, w/o Tabs	1.55	1.05	.78	.31
SLS-240-PC	DP4P, w/o Tabs, w/PC terminals	2.70	1.84	1.35	.54

SS SERIES SLIDE SWITCHES

Designed for printed circuit boards. Offer operational versatility, high density, light weight, and a broad variety of control functions. Rated to carry 300 mA at 30 VDC. Make before break. Have silver contacts, sealed terminals. For use in matrix applications, adjustable voltage dividers, x-y positioning, and others.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
SS-110-13	Single pole, 10+3 pos.	$2.35	$1.60	$1.41	$1.18
SS-111	Single pole, 11 positions	1.75	1.19	1.05	.88
SS-24	Double pole, 4 positions	1.20	.82	.72	.60

CSS SERIES SLIDE SWITCH

Low-cost baton lever slides. DPDT, 3 mA at 125 VAC. Printed circuit sealed terminals, snap action, self cleaning.

CSS-022	DPDT slide with handle	$0.75	$0.51	$0.45	$0.38

ROCKER AND LEVER SWITCHES

MLN—Illuminated rocker switches feature convenient front-panel lamp replacement; snaps into .655" x .728" hole. Rated 6 amps at 125 VAC. Supplied with one red, green, amber or white lens cap; specify. For use with Alco No. 378 (6.3 V), 362 (14.0 V) or 388SC (28.0 V) lamps. **MSL**—Rocker mounts in .49" x .59" hole; molded silver contacts and terminals. **MSD**—Same as MSL, but with lever actuator. Specify red, black or white lever. **HSL**—UL Approved rocker switches rated 10 amps at 125 VAC, 6 amps at 250 VAC; over 100,000 operations. Black with tab terminals and extra-wide surface silver-clad contacts.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MLN-206N	DPDT, on-none-on	$4.35	$3.26	$2.96	$2.74
MLN-206P	DPDT, on-off-on	4.65	3.49	3.16	2.93
MLN-206R	DPDT, none-on-on*	4.80	3.60	3.26	3.02
MSL-106D	SPDT, on-none-on	1.90	1.29	1.14	.95
MSL-106E	SPDT, on-off-on	2.10	1.43	1.26	1.05
MSL-206N	DPDT, on-none-on	2.25	1.53	1.35	1.13
MSL-206P	DPDT, on-off-on	2.70	1.84	1.62	1.35
MSD-106D	SPDT, on-none-on, lever	1.90	1.29	1.14	.95
MSD-106E	SPDT, on-off-on, lever	2.10	1.43	1.26	1.05
MSD-106F	SPDT, on-none-on*	2.25	1.53	1.35	1.13
MSD-206N	DPDT, on-none-on, lever	2.25	1.53	1.35	1.13
MSD-206P	DPDT, on-off-on, lever	2.70	1.84	1.62	1.35
MSD-206R	DPDT, on-none-on*	2.85	1.94	1.71	1.43
HSL-110A	SPST, push on-off	1.15	.86	.78	.72
HSL-110D	SPDT, push on-on	1.25	.94	.85	.79

*Momentary position.

MINIATURE ROCKER AND PADDLE LEVER SWITCHES

A miniature Rocker or Paddle Lever Switch with a current capacity of 6 amps @ 125 VAC. Normally supplied with black actuators. Other colors available—specify suffix (**2**) red, (**8**) gray, (**9**) white.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MRL-106D-30/40	SPDT	On-none-on	$2.10	$1.58	$1.43	$1.32
MRL-106E-30/40	SPDT	On-off-on	2.40	1.80	1.63	1.51
MRL-106F-30/40	SPDT	On-none-on†	2.40	1.80	1.63	1.51
MRL-206N-30/40	DPDT	On-none-on	2.70	2.03	1.84	1.70
MRL-206P-30/40	DPDT	On-off-on	3.05	2.29	2.07	1.92
MRL-206R-30/40	DPDT	On-none-on†	3.05	2.29	2.07	1.92
MRL-306D-30/40	3PDT	On-none-on	4.25	3.19	2.89	2.68
MRL-406N-30/40	4PDT	On-none-on	5.35	4.01	3.64	3.37

MSH LEVER AND MSL ROCKER SWITCHES

Versatile DPDT switches; long lever or rocker actuators; contacts silver-plated. Rated 3 A at 125 VAC. Life, 25,000 cycles.

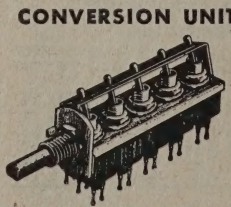
Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MSH-203N-3	Lever actuator	$1.85	$1.39	$1.26	$1.17
MSL-203N-7	Rocker actuator	1.85	1.39	1.26	1.17

ISOLATION RELAYS

Ideal for remote control applications, eliminating shock hazards. Combines isolated step-down transformer and sensitive low voltage relay in a single laminated core. Low voltage circuit can be run through ordinary surface wiring with low current drain. Max. load, 7 amps at 117 VAC, 60 Hz, except types with suffix **-230**, 3.5 amps at 230 VAC, 60 Hz.

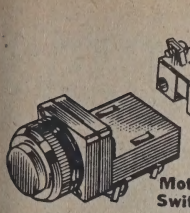
Alco Model FR-102—SPDT basic. Net Each..... **$5.20**
Alco Model FR-102-230—230-V version of above. Net... **5.70**
Alco Model FRE-103—Plug-in outlet combined with SPDT relay (same as FR-102). Provides actuating voltage to an alarm or remote accessory. Has 3-way receptacle to select NO or NC circuit. Side jack serves as plug-in for remote sensor unit. Net Each..... **$7.30**
Alco Model FRP-104—Same as FR-102, but plug-in octal base relay enclosed in plastic dust cover. Net Each..... **$6.25**
Alco Model FR-105A1—SPST basic switch, similar to FR-102 but more compact. UL Listed. Net Each..... **$4.65**
Alco Model FR-105-230—230-V version of above. Net... **5.20**

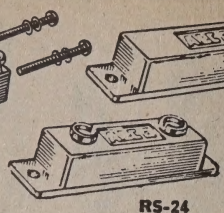
CONVERSION UNIT FOR ROTARY OPERATION

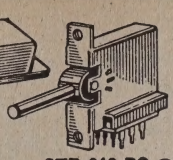


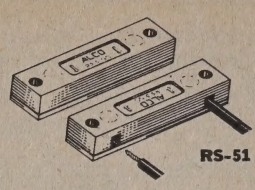
Incorporates unique method of ganging miniature toggle switches to control multiple circuits simultaneously. Operating as a 2 or 3-position rotary switch, unit can gang up to five toggle switches. Consumes minimum of behind-panel space. Also offers advantages of completely enclosed contacts and heavier current capabilities. Accommodates most miniature bat handle switches having 1/4" bushings, and any number of pole configurations. Serves as 3-position rotary switch when used with center-off or on-on-on toggles, or as 2-position rotary when used with single or double-throw toggles.

Alco Model CNK Keyswitch Adapter Unit—
Net Each, Lots of: 1–24..... **$2.95**; 25–99..... **$2.01**
Lots of: 100–499..... **1.77**; 500–999..... **1.62**
Extra Key for CNK—
Net Each, Lots of: 1–24..... **$ .75**; 25–99..... **$ .51**
Lots of: 100–499..... **.45**; 500–999..... **.41**
Alco Model CNV-1 Conversion Unit—
Net Each, Lots of: 1–24..... **$1.95**; 25–99..... **$1.33**
Lots of: 100–499..... **1.17**; 500–999..... **1.07**

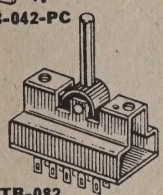

Motor Switch


RS-24


STB-042-PC


RS-51

MSS-22


STB-082

MSS-4200

MSS-2250R

MPN

MINIATURE MOTOR START POWER SWITCHES

Oil-tight pushbutton switches offer compact size, flexibility and low cost. Mount in 1" hole, providing savings up to 60% less panel space. Positive double-break silver contacts rated to carry 6 amps, 230 VAC. Supplied with single (NO-NC) block; additional (NO-NC) contact block also available to convert switches to double pole. Metal enclosures available on request. Three way selector switch has a bar knob with pointer, available in black only. Key/lock switch prevent unwanted operations of machines.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
SW-251*	Standard button	$4.65	$3.16	$2.79	$2.33
SW-251D*	Mushroom button	5.45	3.71	3.27	2.73
SW-251L*	Long button	4.85	3.30	2.91	2.43
SWK-251	Key/Lock switch	11.95	8.13	7.17	5.98
SW-251S-2	Selector, NO-none-NC	5.75	3.91	3.45	2.88
SW-251S-3	Selector, NO-off-NC	5.75	3.91	3.45	2.88
SU-251	NO-NC block	2.85	1.94	1.71	1.43
C-251-00†	On-off buttons	.65	.44	.39	.33
C-251-SS†	Stop-start buttons	.65	.44	.39	.33
C-251-HL	High-low btns., pair	.65	.44	.39	.33
C-251-UD	Up-down btns., pair	.65	.44	.39	.33

*Equipped with snap-on colored buttons, specify red, black or green. †Standard snap-on buttons with legend for SW-251 switches.

PROXIMITY MAGNETIC SWITCHES

Uses replaceable dry reed switch. Reliable, long life (over 5 million operations). Alnico V magnet actuates within 1". Rated 0.5 A break, 1.0 A carry.

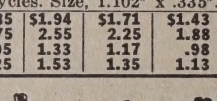
RS-24-NO	Norm. open (apart)	$3.45	$2.35	$2.07	$1.73
RS-24-NC	Norm. closed (apart)	3.75	2.55	2.25	1.88

MINIATURE PROXIMITY MAGNETIC SWITCHES

Dry reed switches RS-11-NO and RS-11-NC actuated by Alnico V magnet within .39". Has 8" leads. Rated .15 A break, .5 A carry at 50 VDC; 200 VDC breakdown. Dry reed switches RS-51-NO and RS-51-NC actuated by Alnico V magnet within 7/16". Rated .5 A at 100 VDC, 125 VAC. Life, 10 million cycles. Size, 1.102" x .335".

RS-11-NO	Norm. open (apart)	$2.85	$1.94	$1.71	$1.43
RS-11-NC	Norm. closed (apart)	3.75	2.55	2.25	1.88
RS-51-NO	Norm. open (apart)	1.95	1.33	1.17	.98
RS-51-NC	Norm. closed (apart)	2.25	1.53	1.35	1.13

KEYLOCK SWITCH



Roller-type mechanical action with positive contact; key removable in both positions. Choice of 25 keys. Rated 5 A resistive, 115 VAC; 15 A, 24 VDC. Flatted 3/4" diameter barrel fits panels to 3/4" thick.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
SWK-12	SPST Off or On	$4.95	$3.37	$2.97	$2.48
SWK-12-1	SPST Off	4.95	3.37	2.97	2.48
SWK-12-3	SPST On	4.95	3.37	2.97	2.48

MPN PUSHBUTTON SWITCHES

Alco® lighted snap-action switches rated 6 amps at 125 VAC or 3 amps at 250 VAC. Built to withstand abuse; feature a metal construction, phenolic miniature case and solid silver contacts. Choice of round or square shapes plastic buttons in nine different shades at extra cost. Employ standard T-1 3/4 grooved lamps, easily replaceable from the front without use of special tools. Mounts in a 1 5/32" dia. hole. Life cycle of over 20,000 operations. Units come with two hex nuts, locating ring and lock washer.

MPN-206N-4*	DPDT‡ Push-on-off	$5.65	$3.84	$3.39	$2.83
MPN-206R-4*	DPDT‡ Momentary	5.65	3.84	3.39	2.83

		1-24	25-99	100-499	500-999
RS	1/2" Round button†	$0.15	$0.10	$0.09	$0.08
RM	5/8" Round button†	.18	.12	.11	.10
RL	3/4" Round button†	.20	.14	.12	.11
SS	1/2" Square button†	.15	.10	.09	.08
SM	5/8" Square button†	.18	.12	.11	.10
SL	3/4" Square button†	.20	.14	.12	.11
CGR-1/2	1/2" Round guard‡	.55	.37	.33	.30
CGR-5/8	5/8" Round guard‡	.65	.44	.39	.36
CGR-3/4	3/4" Round guard‡	.75	.51	.45	.41
CGS-1/2	1/2" Square guard§	.55	.37	.33	.30
CGS-5/8	5/8" Square guard§	.65	.44	.39	.36
CGS-3/4	3/4" Square guard§	.75	.51	.45	.41
379	Lamp; 6.3 V, .2 A	.86	.56	.43	.37
386	Lamp; 14.0 V, .08 A	.90	.59	.45	.39
388	Lamp; 28.0 V, .04 A	.95	.62	.48	.41

*Less colored button and lamp. †Specify color—transparent red, amber, blue, green or clear; translucent: Red, yellow, green or white. ‡Chromed brass; uses grooved base lamps. §Chromed plastic. IUL Listed E46765 available on special order; others can be UL Listed by contract.

TOGGLE SLIDE SWITCHES

Selection of terminals for PC or hand wired use. Available in wide range of poles (2 to 8 circuits) in two or three active positions. Rated 300 mA, 30 VDC. Make before break. Have silver terminals. Terminals sealed against solder flux to limit wicking. Mating power switch rated at 10 mA, 125 VAC provided to complete the series. Model No's. with PC suffix have printed circuit terminals.

Alcoswitch No.	Poles	Positions	Net Each, Lots of 1-24	25-99	100-499	500-999
STB-012	1	2	$1.65	$1.12	$0.99	$0.83
STB-042	4	2	2.95	2.01	1.77	1.48
STB-082	8	2	3.10	2.11	1.86	1.55
STB-023	2	3	3.10	2.11	1.86	1.55
STB-043	4	3	3.50	2.38	2.10	1.75
STB-042-PC	4	2	2.95	2.01	1.77	1.48
STB-082-PC	8	2	3.10	2.11	1.86	1.55
STB-023-PC	2	3	3.10	2.11	1.86	1.55
STB-043-PC	4	3	3.50	2.38	2.10	1.75
STBR-022-PC	2	2	2.35	1.60	1.41	1.18
STBR-042-PC	4	2	2.85	1.94	1.71	1.43
STBR-062-PC	6	2	3.35	2.28	2.01	1.68
STBR-023-PC	2	3	2.95	2.01	1.77	1.48
STBR-043-PC	4	3	3.40	2.31	2.04	1.70
STBR-063-PC	6	3	3.85	2.62	2.31	1.93

MINIATURE SLIDE SWITCHES

Min. 2-circuit anti-tease design (NO, NC only) rated 2 amps, 120 VAC; 1/2 amp, 120 VDC. Phenolic base and slide block. Gold on nickel on silver-plated brass contacts. Life, 250,000 operations. Size, .500" x .305" x .257" with two .687" mtg. centers.

Alcoswitch No.	Contacts	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MSS-22	SPDT	2 circuit, w/tabs	$1.90	$1.27	$0.95	$0.80
MSS-22-1	SPDT	2 circuit w/o tabs	1.90	1.27	.95	.80
MSS-22-2	SPDT	2 cir. lg. lever w/o tabs	1.90	1.27	.95	.80
MSS-44	DPDT	On-none-on w/tabs	3.25	2.18	1.63	1.37

MINIATURE PRINTED CIRCUIT SLIDE SWITCHES

Mount directly to PC board. Rated 0.3 amp, 125 VAC. Life, 15,000 cycles at rated load. Silver-plated contacts except where noted gold (gold-plated nickel); movable contacts beryllium plated brass. MSS-4300, -6200, 4-40 screw holes; others tab.

MSS-1200R	SPDT	Right angle	$0.65	$0.44	$0.39	$0.33
MSS-1200RG	SPDT	Right angle, gold	.90	.61	.54	.45
MSS-1300	SP3T	Upright	.70	.48	.42	.35
MSS-2200	DPDT	Upright	.70	.48	.42	.35
MSS-2200G	DPDT	Upright, gold	1.20	.82	.72	.60
MSS-2220	DPDT	Upright, .200" lever	.70	.48	.42	.35
MSS-2220G	DPDT	Upright, .200" lever, gold	1.20	.82	.72	.60
MSS-2250	DPDT	Upright, lg. handle	.75	.51	.45	.38
MSS-2250G	DPDT	Upright, lg. handle, gold	1.25	.85	.75	.63
MSS-2250R	DPDT	Right angle, long handle	.85	.58	.51	.43
MSS-2250RG	DPDT	Rt. angle, lg. handle, gold	1.35	.92	.81	.68
MSS-2450	DP4T	Upright, lg. handle	1.00	.68	.60	.50
MSS-2450G	DP4T	Upright, long handle, gold	1.75	1.19	1.05	.88
MSS-4200	4PDT	Upright	.80	.54	.48	.40
MSS-4200G	4PDT	Upright, gold	1.80	1.22	1.08	.90
MSS-4200R	4PDT	Right angle	.90	.61	.54	.45
MSS-4200RG	4PDT	Right angle, gold	1.90	1.29	1.14	.95
MSS-4300	4P3T	Upright	1.10	.75	.66	.55
MSS-4300G	4P3T	Upright, gold	2.35	1.60	1.41	1.18
MSS-4350R	4P3T	Right angle, long handle	1.35	.92	.81	.68
MSS-4350RG	4P3T	Rt. angle, long handle, gold	2.60	1.77	1.56	1.30
MSS-6200	6PDT	Upright	1.10	.75	.66	.55
MSS-6200G	6PDT	Upright, gold	2.60	1.77	1.56	1.30
MSS-6300	6P3T	Upright	1.30	.88	.78	.65
MSS-6300G	6P3T	Upright, gold	3.05	2.07	1.83	1.53
MSS-8300	8P3T	Upright	1.90	1.29	1.14	.95
MSS-8300G	8P3T	Upright, gold	3.55	2.41	2.13	1.78
MSS-10300	10P3T	Upright	2.10	1.43	1.26	1.05
MSS-10300G	10P3T	Upright, gold	4.35	2.96	2.61	2.18
MSS-12300	12P3T	Upright	2.45	1.67	1.47	1.23
MSS-12300G	12P3T	Upright, gold	5.15	3.50	3.09	2.58

SUB-MINIATURE BI-DIRECTIONAL CODE SWITCHES

Suited for applications requiring high density panel design. Push-button design affords easy, dependable operation of switches. Life expectancy exceeds 500,000 operations. Operating voltage: 60 volts max. Contact load, static: 0.5 amps max.

Alco-switch No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99
SMC-111-AK	Decimal	$6.95	$6.26	$5.91	$5.56
SMC-111-AL	Decimal, Ext. PC Brd.	7.95	7.16	6.76	6.36
SMC-131-AK	BCD	7.50	6.75	6.38	6.00
SMC-131-AL	BCD, Ext. PC Brd.	8.50	7.65	7.23	6.80
SMC-141-AK	BCD, Compliment	8.50	7.65	7.23	6.80
SMC-161-AK	7 Segment	8.50	7.65	7.23	6.80
SMC-P (Pair)	End Mounting Plates	1.85	1.67	1.57	1.48
SMC-BG	.300" Spacer	1.00	.90	.85	.80
SMC-S	.100" Spacer	.50	.45	.43	.40

BI-DIRECTIONAL CODE SWITCHES

These miniature bi-directional pushbutton code switches are intended for applications requiring maximum character size and viewing distance. For use in communications, test, data processing and process control equipment. Operating voltage: 60 volts max. Contact load, static: 1 amp max.

Alco-switch No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99
MHE-111-AK	Decimal Output	$7.95	$7.15	$6.76	$6.36
MHE-131-AK	BCD Output	8.95	8.05	7.61	7.16
MHE-131-AL	BCD, Ext. PC Brd.	11.50	10.35	9.77	9.20
MHE-141-AK	BCD, w/Compliment	10.50	9.45	8.92	8.40
MHE-P (Pair)	End Plates	1.30	1.16	1.10	1.04
MHE-BG	.472" Spacer	1.50	1.35	1.27	1.20
MICO-111-AK	Decimal Output	7.50	6.75	6.37	6.00
MICO-131-AK	BCD Output	8.25	7.42	7.01	6.60
MICO-131-AL	BCD, Ext. PC Brd.	10.50	9.45	8.92	8.40
MICO-141-AK	BCD, w/Compliment	9.50	8.55	8.07	7.60
MICO-P (Pair)	End Mounting Plates	1.20	1.08	1.02	.96
MICO-H (Pair)	ClampingScrewElement	1.20	1.08	1.02	.96
MICO-BG	.433" Spacer	1.25	1.12	1.06	1.00

MAGNETIC REED PUSHBUTTON SWITCHES

SPST momentary for data processing equipment; ceramic magnets eliminate springs. Light and snappy touch with little change in pressure over very long periods of service. Contacts are glass-encapsulated reeds for long life; plunger is keyed and non-rotating; metal case withstands abuse and serves as a shield. Rated 100 mA at 50 VDC; resistance, 100 milliohms. Contact bounce, 1 msec; plunger travel, 5/64". Oper. force, 2 oz. Life, 10 million cycles.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MSPM-101B*	NC; solder lugs	$4.25	$3.40	$2.98	$2.76
MSPM-101C†	NO; solder lugs	4.10	3.28	2.87	2.67
MSPM-101B-1*	NC; .110" terminal	4.25	3.40	2.98	2.76
MSPM-101C-1†	NO; .110" terminal	4.10	3.28	2.87	2.67
MSPM-101BP	Push-pull	4.25	3.40	2.98	2.76
MSPM-101CP	Push-pull	4.25	3.40	2.98	2.76
MSPM-101BS-1	NC; solder lug	4.25	3.40	2.98	2.76
MSPM-101CS-1	NO; solder lug	3.90	3.12	2.73	2.54
MSPM-101BS	NC; PC terminal	4.25	3.40	2.98	2.76
MSPM-101CS	NO; PC terminal	3.90	3.12	2.73	2.54
C-22‡	Extra button	.10	.07	.06	.055

*Supplied with C-12 black button. †Supplied with C-12 red button. ‡Packages of 25; specify red, black or green.

BASE MOUNTED KEYBOARD PUSHBUTTON SWITCH

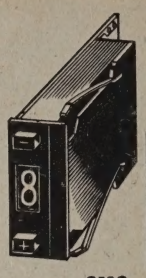
Reed-actuated, low profile single-pole normally open unit provides the low operating force (1.2 oz.) and high reliability required in keyboards; suitable for 0.75" matrix, free from interaction between units. Hamlin reed switch is molded in high quality glass-filled nylon and metal resin; actuated by permanent magnet. Rated 10 watts, 500 mA at 50 V. Contact resistance, 150 milliohms. Life, 10 million cycles. Total stroke, 0.140"; min. pretravel, 0.060"; min. overtravel, 0.030"; min. travel after release, 0.032". Specify dark gray, white, red, blue or black.

RSM-61/1A	Keyboard switch, flat based	$1.95	$1.56	$1.37	$1.27
RSB-1	Blank key	.20	.18	.16	.14
RSB-1N	Two shot keys, specify 0 to 9	.25	.22	.20	.18

ALCOSWITCH ACCESSORIES

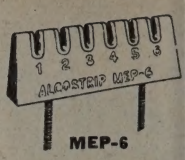
DECORATIVE MOUNTING NUTS

Alco-switch No.	Size	Description	Net Each, Lots of‡ 25-99	100-499	500-999
N-1	1/4-40	Standard knurl	$0.05	$0.04	$0.035
N-1A	1/4-40	"Perfect-Fit" knurl	.09	.08	.07
N-1A-B	1/4-40	"Perfect-Fit" knurl	.09	.08	.07
N-1B	15/32"	"Perfect-Fit" knurl	.10	.09	.08
N-1C	3/8"	"Perfect-Fit" knurl	.09	.08	.07
N-2	1/4-40	Standard hex nut	.03	.03	.....
N-3	1/4-40	Decorative mtg. nut	.06	.05	.045
N-4	1/4-40	Decorative mtg. nut	.09	.08	.07
MAN-1	.....	Mounting adapter nut	.18	.15	.14



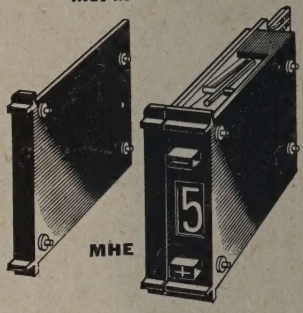
SMC

MSPM



MEP-6

RSM-61/1A



MHE

INSTALLATION WRENCH

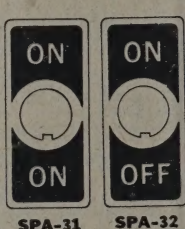
A spanner wrench for Alcoswitches. Long tapered arm extends at slight angle to permit user to tighten lower mounting nut.

Alcoswitch No. W-1 Installation Wrench—Net Each....**$0.25**

SWITCH PLATES

Stamped aluminum plates for miniature and standard size switches.

Alco-switch No.	Description	Net Each, Lots of 1-24	25-99	100-499
SPA-31	On-on, 1/4"	$0.90	$0.61	$0.54
SPA-32	On-off, 1/4"	.90	.61	.54
SPA-33	Pwr.-off, 1/4"	.90	.61	.54
SPA-41	On-on, 15/32"	1.00	.68	.60
SPA-42	On-off, 15/32"	1.00	.68	.60
SPA-43	Pwr.-off, 15/32"	1.00	.68	.60



SPA-31 SPA-32

CERAMIC TERMINAL STRIPS

Thread mounted terminal strips with fired silver, copper plates and tinned terminals to facilitate high temperature soldering of components and leads. The NB series have a snap mounting feature.

Alco-switch No.	No. Slots	Lgt.	Mtg. Ctr.	Net Each, Lots of 1-9	10-24	25-49	50-99
MEP-2	2	.650	—	$0.80	$0.54	$0.48	$0.44
MEP-4	4	1.161	.512	1.10	.75	.66	.61
MEP-6	6	1.673	1.024	1.40	.95	.84	.77
MEP-8	8	2.185	1.535	1.70	1.16	1.02	.94
MEP-10	10	2.697	2.047	2.10	1.43	1.26	1.16
MEP-12	12	3.209	2.560	2.30	1.56	1.38	1.27
MEP-NB-3	3	.590	—	.85	.58	.51	.47
MEP-NB-5	5	.876	.490	1.15	.78	.69	.63
MEP-NB-7	7	1.162	.475	1.25	.85	.75	.69
MEP-NB-9	9	1.448	.750	1.45	.99	.87	.80
MEP-NB-13	13	2.020	1.500	1.75	1.19	1.05	.96
MEP-NB-16	16	2.449	1.500	2.15	1.46	1.29	1.18
MEP-NB-20	20	3.021	2.520	2.50	1.70	1.50	1.38

AC LINE MONITOR

The GT-33 Line Monitor is a Safe/Power-On panel assembly designed to give equipment operators protection against potential electrical shock hazard when there is a malfunction at the power source.

Alco-switch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
GT-33	AC Line Monitor	$2.49	$1.67	$1.49	$1.25

25098

35058

TC3M

TM-3

PM-3

MIL APPROVED TOGGLE SWITCHES

MS-25098 (SINGLE POLE) AND MS-25100 (DOUBLE POLE)

Wiping contacts; phenolic base. Slotted sleeve, 15/32" dia. Non-ferrous material satin chrome finish. Solder lug terminals. Supplied with 2 hex nuts, 1 locating ring and 1 shakeproof lockwasher.

A-H Number	MS Number	Circuit	Net Each, Lots of 1-24	25-49	50-99	100-499
25098AM	MS-25098-22	On-none-off	$2.74	$2.47	$2.29	$2.06
25098BM	MS-25098-29	On-none-mom. off	3.36	3.02	2.80	2.52
25098CM	MS-25098-30	Off-none-mom. on	3.36	3.02	2.80	2.52
25098DM	MS-25098-23	On-none-on	2.96	2.66	2.47	2.22
25100AM	MS-25100-22	On-none-off	3.36	3.02	2.80	2.52
25100BM	MS-25100-29	On-none-mom. off	4.01	3.61	3.34	3.01
25100CM	MS-25100-30	Off-none-mom. on	4.01	3.61	3.34	3.01
25100DM	MS-25100-23	On-none-on	3.58	3.22	2.99	2.69

MS-35058 (SINGLE POLE) AND MS-35059 (DOUBLE POLE)

Butt-type contacts; phenolic base. Slotted sleeve, 15/32" dia. Exposed parts of non-ferrous material, satin chrome finished. Screw terminals. Circuit designations stamped on side. Supplied with 2 hex nuts, 1 locating ring and 1 shakeproof lockwasher.

A-H Number	MS Number	Circuit	Net Each, Lots of 1-24	25-49	50-99	100-499
35058EM	MS-35058-21	On-off-on	$2.48	$2.23	$2.07	$1.86
35058WM	MS-35058-22	On-none-off	2.05	1.85	1.71	1.54
35058DM	MS-35058-23	On-none-on	2.48	2.23	2.07	1.86
35058AM	MS-35058-24	On-off-none	2.05	1.85	1.71	1.54
35058CM	MS-35058-25	On-mom. off-none	2.26	2.04	1.89	1.70
35058FM	MS-35058-26	On-none-mom. on	2.70	2.43	2.25	2.02
35058GM	MS-35058-27	Mom. on-off-mom. on	2.70	2.43	2.25	2.02
35058BM	MS-35058-28	None-off-mom. on	2.26	2.04	1.89	1.70
35058XM	MS-35058-29	On-none-mom. off	2.26	2.04	1.89	1.70
35058YM	MS-35058-30	Off-none-mom. on	2.26	2.04	1.89	1.70
35058HM	MS-35058-31	On-off-mom. on	2.70	2.43	2.25	2.02
35059EM	MS-35059-21	On-off-on	3.32	2.99	2.77	2.49
35059WM	MS-35059-22	On-none-off	2.75	2.47	2.29	2.06
35059DM	MS-35059-23	On-none-on	3.32	2.99	2.77	2.49
35059AM	MS-35059-24	On-off-none	2.74	2.47	2.29	2.06
35059CM	MS-35059-25	On-mom. off-none	3.32	2.99	2.77	2.49
35059FM	MS-35059-26	On-none-mom. on	3.58	3.22	2.99	2.69
35059GM	MS-35059-27	Mom. on-off-mom. on	3.58	3.22	2.99	2.69
35059BM	MS-35059-28	None-off-mom. on	3.32	2.99	2.77	2.49
35059XM	MS-35059-29	On-none-mom. off	3.32	2.99	2.77	2.49
35059YM	MS-35059-30	Off-none-mom. on	3.32	2.99	2.77	2.49
35059HM	MS-35059-31	On-off-mom. on	3.58	3.22	2.99	2.69

SUBMINIATURE MS-75028 AND MS-75029

Butt-type gold plated silver contacts. Slotted sleeve ¼" dia. Combination solder lug-quick connect terminals. Aluminum exposed parts; clear anodized aluminum finish. With 2 hex nuts, 1 lockwasher and 1 locking ring.

A-H Number	MS Number	Circuit	Net Each, Lots of 1-24	25-49	50-99	100-499
TS1M	MS-75028-22	Off-none-on	$3.45	$2.76	$2.76	$2.59
TC3M	MS-75028-21	On-off-on	3.68	2.94	2.94	2.76
TE3M	MS-75028-31	Mom. on-off-maint. on	3.91	3.13	3.13	2.93
TG3M	MS-75028-27	Mom. on-off-mom. on	3.91	3.13	3.13	2.93
TM3M	MS-75028-26	Mom. on-none-on	3.91	3.13	3.13	2.93
TS3M	MS-75028-23	On-none-on	3.68	2.94	2.94	2.76
TS2M	MS-75029-22	Off-none-on	4.14	3.31	3.31	3.11
TC6M	MS-75029-21	On-off-on	4.72	3.78	3.78	3.54
TE6M	MS-75029-31	Mom. on-off-maint. on	5.98	4.78	4.78	4.49
TG6M	MS-75029-27	Mom. on-off-mom. on	5.98	4.78	4.78	4.49
TM6M	MS-75029-26	Mom. on-none-maint. on	5.98	4.78	4.78	4.49
TS6M	MS-75029-23	On-none-on	4.72	3.78	3.78	3.54

COMMERCIAL SUBMINIATURE SWITCHES

2 AND 3 POSITION TOGGLE TYPE

Butt-type gold plated silver contacts; slotted sleeve, ¼" dia. Solder lug-quick connect terminals; PC on request. Stainless steel ball lever. Gold anodized aluminum exposed parts. Rated at 5 A, 125 VAC; 5 A, 29 VDC. Supplied with 2 hex nuts, 1 locating ring and 1 locking ring.

A-H Number	Circuit	Toggle Lever Position	Net Each, Lots of 1-24	25-49	50-99	100-499
TS-1	SPST	Off-none-on	.....	.....	.....	.....
TS-3	SPDT	On-none-on	$3.45	$2.76	$2.76	$2.59
TM-3	SPDT	On*-none-on†	3.68	2.94	2.94	2.76
TS-2	DPST	Off-none-on	3.91	3.13	3.13	2.93
TS-6	DPDT	On-none-on	4.49	3.59	3.59	3.37
TM-6	DPDT	On*-none-on†	5.75	4.60	4.60	4.31
TC-3	SPDT	On-off-on	3.45	2.76	2.76	2.59
TE-3	SPDT	On*-off-on†	3.68	2.94	2.94	2.76
TG-3	SPDT	On*-off-on*	3.68	2.94	2.94	2.76
TC-6	DPDT	On-off-on	4.49	3.59	3.59	3.37
TE-6	DPDT	On*-off-on†	5.75	4.60	4.60	4.31
TG-6	DPDT	On*-off-on*	5.50	4.40	4.40	4.13

*Momentary. †Maintained.

PUSHBUTTON TYPE

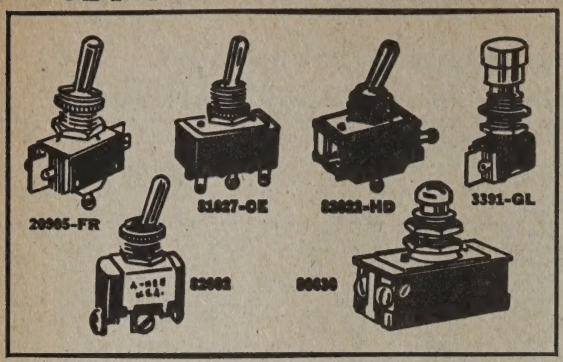
Subminiature pushbutton switches incorporate maximum performance, dependability and durability on an ultra-lightweight base. Ideal for electronic instrumentation, computer equipment and communication switchboard applications. Leaf blade wiping action; gold plated silver contacts for low energy reliability. Combination solder lug-quick connect terminals. Slotted sleeve ¼" dia. x ¼" lg. Rated at 1 amp, 115 VAC; 2 amps, 29 VDC. Supplied with 2 hex nuts, 1 locating ring, 1 locking ring and white nylon button.

A-H Number	Circuit	Net Each, Lots of 1-24	25-49	50-99	100-499
PM-3	SPDT	$3.29	$2.63	$2.63	$2.47
PM-6	DPDT	4.04	3.23	3.23	3.03
PM-7	3PST-NO	3.81	3.05	3.05	2.86
PM-8	3PST-NC	5.35	4.28	4.28	4.01
PMQ-3*	SPDT	3.74	2.99	2.99	2.81

*Rated at 7 A, 125 VAC; 5 A, 29 VDC. Snap-acting butt-type contacts.

ALL SWITCHES ARE LISTED BY UNDERWRITER LABORATORIES

Toggle Switches



Unless otherwise noted, bright nickel finished exposed parts; slotted sleeve, 1⁵⁄₁₆"-32 dia.; with standard hardware. SPST and DPST switches operate on-off; SPDT and DPDT switches operate on-on (3-position, on-off-on); 2-circuit switches have two independent circuits, one on and the other off and vice versa when operated. All switches are listed by Underwriter Laboratories.

2 POSITION MAINTAINED TOGGLE SWITCHES

3 AMP AC-DC CANOPY SERIES

Roller action contacts with quick make-break action; laminated base. Solder lug terminals. Rated at 1 A, 230 V; 3 A, 125 V.

A-H Number	Circuit	Sleeve Lgth., Inches	Lever	Net Each, Lots of 1-24	25-49	50-99	100-499
20994-CS	SPST	15/32	Ball	$1.13	$1.02	$0.94	$0.85
20994-LH	SPST	15/32	Bat	1.13	1.02	.94	.85
21615-BD	SPST	1	Ball	1.56	1.40	1.30	1.17
21615-BE	SPST	1	Bat	1.56	1.40	1.30	1.17
21350-BF	SPDT	15/32	Ball	1.42	1.27	1.18	1.06
21350-EH	SPDT	15/32	Bat	1.42	1.27	1.18	1.06
20902-N	DPST	15/32	Ball	2.05	1.84	1.71	1.54
20902-CX	DPST	15/32	Bat	2.05	1.84	1.71	1.54
20905-BX	DPDT	15/32	Ball	2.34	2.11	1.95	1.76
20905-FR	DPDT	15/32	Bat	2.34	2.11	1.95	1.76
20905-KA	DPDT	1	Bat	2.79	2.51	2.33	2.09

3 AMP AC-DC MIDGET SERIES

Wiping blade contact; molded phenolic base. Solder lug terminals. Rated at 1 A, 250 V; 3 A, 125 V. **83050** metal bat lever; **83050-C** paddle lever, satin chrome finish; **83050-S** black nylon lever.

A-H Number	Circuit	Sleeve Length, Inches	Net Each, Lots of 1-24	25-49	50-99	100-499
83050	SPST	15/32	$1.12	$1.00	$0.93	$0.84
83050-CG	SPST	15/32	1.47	1.32	1.23	1.10
83050-SB	SPST	13/32	1.34	1.21	1.12	1.01
83052	SPDT	15/32	1.33	1.20	1.11	1.00
83052-CG	SPDT	15/32	1.84	1.66	1.54	1.38
83052-SG	SPDT	13/32	1.57	1.42	1.31	1.18
83053	DPST	15/32	1.66	1.49	1.38	1.24
83053-CG	DPST	15/32	2.17	1.95	1.81	1.63
83053-SG	DPST	13/32	1.88	1.70	1.57	1.41
83054	DPDT	15/32	1.90	1.71	1.59	1.43
83054-C	DPDT	15/32				
83054-SQ	DPDT	13/32				

6 AMP AC-DC SERIES

Wiping blade contacts; molded phenolic base. End-connected solder lug terminals except as noted. Rated 3 A, 250 V; 6 A, 125 V.

81015-AW*	SPST	15/32	$1.12	$1.00	$0.93	$0.84
81021-AV†	SPDT	15/32	1.33	1.20	1.11	1.00
81024-GB*	DPST	15/32	1.66	1.49	1.38	1.24
81024-KB	DPST	15/32				
81027-CE*	DPDT	15/32	1.90	1.71	1.59	1.43
81027-CB	DPDT	15/32				

Same as above except slider contacts and terminals: Suffix **QE**, wire leads; **E**, screw and **N**, solder lug.

86599-QE	SPST	15/32	$1.15	$1.03	$0.96	$0.86
86964-E	SPST	15/32	1.15	1.03	.96	.86
86994-N	SPST	15/32	.97	.87	.81	.73

*Back-connected. †Rated at 1 A, 250 V; 6 A, 125 V.

15 AMP AC UTILITY SERIES

Slow make and slow break butt type contacts. Molded phenolic base. Bat lever. Sleeve, 1⁵⁄₁₆" dia. Rated at 10 A, 250 VAC; 15 A, 125 VAC; ¾ hp, 120–240 VAC.

A-H Number	Circuit	Terminals	Net Each, Lots of 1-24	25-49	50-99	100-499
82600	SPST	Screw	$1.01	$0.91	$0.84	$0.76
82601	SPST	Solder	.88	.79	.74	.66
82604	SPDT	Screw	1.21	1.09	1.01	.91
82605	SPDT	Solder	1.01	.91	.84	.76
82606	DPST	Screw	1.63	1.46	1.36	1.22
82607	DPST	Solder	1.37	1.24	1.15	1.03
82610	DPDT	Screw	2.00	1.80	1.67	1.50
82611	DPDT	Solder	1.63	1.46	1.36	1.22
82612*	3PST	Screw	3.11	2.80	2.59	2.33
82616*	3PDT	Screw	3.94	3.55	3.29	2.96
82617*	3PDT	Solder	3.30	2.97	2.75	2.48
82635†	4PDT	Screw	5.58	5.02	4.65	4.19
82636†	4PDT	Solder	4.93	4.54	4.11	3.70

*Rated for 1 hp, 1-2-3 phase, 120 VAC; †½ hp, 115–230 VAC.

2-POSITION MAINTAINED SWITCHES (CONT'D)

16 AMP AC-DC SERIES

Wiping contacts; positive quick make-break action. Screw terminals. Molded phenolic base except 83800-D, all-molded construction and double insulated design. Sleeve, 1⁵⁄₁₆" lg. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

A-H Number	Circuit	Lever	Net Each, Lots of 1-24	25-49	50-99	100-499
80607-BJ*	SPST	Bat	$1.70	$1.53	$1.42	$1.27
80618-K*	SPDT	Bat	1.70	1.53	1.42	1.27
80600-BJ	DPST	Bat	1.70	1.53	1.42	1.27
80600-B	DPST	Ball	1.70	1.53	1.42	1.27
83800-D	DPST	Bat	1.77	1.59	1.48	1.33

*Rated at 6 A, 250 V; 12 A, 125 V.

20 AMP AC-DC SERIES

Wiping contacts; molded phenolic base. Screw terminals. Rated at 10 A, 250 V; 20 A, 125 V; 1½ hp, 125–250 V.

A-H Number	Circuit	Sleeve Length, Inches	Net Each, Lots of 1-24	25-49	50-99	100-499
80601-BD	SPST	15/32	$2.96	$2.67	$2.47	$2.22
80609-CA*	SPDT	15/32	2.96	2.67	2.47	2.22
80602-C	DPST	15/32	2.96	2.67	2.47	2.22
80602-CA	DPST	15/32	2.96	2.67	2.47	2.22

Quick make and quick break contacts; molded phenolic base. No. 8421 sleeve, ½" dia. Screw terminals. Rated at 20 A, 250 V; 1½ hp, 125 V; 2 hp, 250 V.

80421	DPST	11/32	$3.98	$3.58	$3.32	$2.98
80421-U	DPST	35/64	3.98	3.58	3.32	2.98

*Rated at 10 A, 250 V; 15 A, 125 V.

30 AMP AC-DC 93 SERIES

Knife blade contacts; molded phenolic square lever. Screw terminals. Two-hole flush mounting on 3⁵⁄₁₆" centers. Rated at 30 A, 250 V; 20 A, 600 V; 2 hp, 115–600 V.

A-H Number	Circuit	Net Each, Lots of 1-24	25-49	50-99	100-499
8684-U*	SPST				
80093	DPST	$ 5.40	$ 4.86	$ 4.50	$4.05
8686-U*	DPST				
80404	3PST	13.31	11.98	11.09	9.98

*2 hp, 115–230 VAC; 1 hp, 460 VAC.

60 AMP AC-DC SERIES

Same as 30 amp 93 Series except rated at 6 A, 250 V; 2 hp, 120–240 V.

7828-B	DPST	$9.58	$8.62	$7.98	$7.18

3 POSITION CENTER-OFF MAINTAINED TOGGLE SWITCHES

3 AMP AC-DC 84000 SERIES

Wiping blade contacts; molded phenolic base; nickel finished exposed parts. Rated at 1 A, 250 V; 3 A, 125 V.

A-H Number	Circuit	Sleeve Length, Inches	Net Each, Lots of 1-24	25-49	50-99	100-499
84104	DPDT	5/16	$3.08	$2.77	$2.57	$2.31
84105	SPDT	5/16	2.59	2.33	2.16	1.94

6 AMP AC-DC INTERMEDIATE SERIES

Wiping contacts; phenolic base; nickel finish bat lever. Solder lug terminals. Rated at 3 A, 250 V; 6 A, 125 V.

82022-HD	SPDT	15/32	$2.16	$1.94	$1.80	$1.62
82024-HD	DPDT	15/32	2.66	2.39	2.22	1.99

14 AMP AC-DC 638 SERIES

Sliding wedge contacts; phenolic base. Sleeve, ¾" dia. Screw terminals. Positive off position; available without off on request. No. 80638-D rated at 7 A, 250 V; 14 A, 125 V; ¾ hp, 250 V. Nos. 80983, 80985 rated at 5 A, 250 V; 10 A, 125 V; ½ hp, 115–230 VAC.

80638-D	DPDT	13/32	$4.94	$4.44	$4.12	$3.70
80983	3PDT	13/32	7.63	6.86	6.36	5.72
80985	4PDT	13/32	10.15	9.13	8.46	7.61

15 AMP AC UTILITY SERIES

Heavy duty butt-type silver contacts. Molded phenolic base; nickel finished exposed parts. Bat lever. Sleeve, 1⁵⁄₁₆" lg. Rated at 10 A, 250 VAC; 15 A, 125 VAC; ¾ hp, 120–240 VAC.

A-H Number	Circuit	Terminals	Net Each, Lots of 1-24	25-49	50-99	100-499
82602	SPDT	Screw	$1.21	$1.09	$1.01	$0.91
82603	SPDT	Solder	1.01	.91	.84	.76
82608	DPDT	Screw	2.00	1.80	1.67	1.50
82609	DPDT	Solder	1.63	1.46	1.36	1.22
82614	3PDT	Screw	3.94	3.55	3.29	2.96
82615*	3PDT	Solder	3.29	2.96	2.74	2.47
82633†	4PDT	Screw	5.58	5.02	4.65	4.19
82634	4PDT	Solder	4.93	4.54	4.11	3.70

20 AND 30 AMP AC-DC SERIES

Quick make-break action; positive center off. Molded phenolic base; insulated molded square lever. Two hole flush mounting on 3⁵⁄₁₆" centers. Rated at 20 A, 250 V; 30 A, 125 V; 1½ hp, 250 V.

80634‡	DPDT	Screw	$ 7.94	$ 7.14	$ 6.62	$ 5.95
80988§	DPDT	Screw	13.79	12.42	11.50	10.35
80898	3PDT	Screw	18.15	16.34	15.13	13.61
80899	4PDT	Screw	20.69	18.63	17.25	15.52

*Rated for 1 hp at 125 VAC. †Rated for ½ hp at 115–230 VAC. ‡Rated at 10 A, 250 V; 20 A, 125 V; 1½ hp, 250 VDC; 2 hp, 230 VAC; 5 A, 600 V. §Rated at 20 A, 250 V; 30 A, 125 V.

MOMENTARY CONTACT PUSHBUTTON SWITCHES
1 AMP AC CANOPY SERIES

Slow make-break butt-type contacts; solder lug terminals; laminated base. Bright nickel finished exposed parts. Plain metal top or snap-on phenolic button. Slotted sleeve 15/32"-32 x 9/16" lg. Rated at 1 A, 125 VAC; 3/4 A, 125 VDC.

A-H Number	Circuit	Button Style	Net Each, Lots of 1-24	25-49	50-99	100-499
3391	SPST-NC	Std. metal	$1.21	$1.09	$1.01	$0.91
3391-GJ		Black snap-on	1.59	1.43	1.33	1.19
3391-GJR		Red snap-on	1.59	1.43	1.33	1.19
3391-E	SPST-NO	Std. metal	1.21	1.09	1.01	.91
3391-GL		Black snap-on	1.59	1.43	1.33	1.19
3391-GLB		None*	1.23	1.11	1.03	.92
3391-GLR		Red snap-on	1.59	1.43	1.33	1.19
3392	2 circuit—	Std. metal	1.56	1.40	1.30	1.17
3392-AE	1 NO,	Black snap-on	1.93	1.73	1.61	1.45
3392-AER	1 NC	Red snap-on	1.93	1.73	1.61	1.45

3 AMP AC 511 SERIES

Same as above except molded phenolic base and choice of three button styles: Std. aluminum, concave aluminum or snap-on molded phenolic. Rated at 1 A, 250 VAC; 3 A, 120 VAC; 1/10 hp, 120 VAC.

80511	SPST-NC	Std. metal	$0.64	$0.57	$0.53	$0.48
80511-C		Concave metal	.80	.72	.67	.60
80541		Black snap-on	1.20	1.08	1.00	.90
80541-R		Red snap-on	1.20	1.08	1.00	.90
80541-L	SPST-NO	None*	.92	.83	.77	.69
80511-E		Std. metal	.64	.57	.53	.48
80511-CE		Concave metal	.80	.72	.67	.60
80541-E		Black snap-on	1.20	1.08	1.00	.90
80541-ER		Red snap-on	1.20	1.08	1.00	.90

*Same as 3391-GJ and 80541 but without snap-on button; will accept either black or red button.

3 AMP AC-DC MIDGET SERIES

Combination solder lug-quick connect terminals; silver-plated current carrying parts; single wiping blade contacts. Molded phenolic base; plain metal top or black snap-on phenolic button. Rated at 1 A, 250 V; 3 A, 125 V.

83090	SPST-NO	Std. metal	$2.66	$2.13	$1.33	$1.06
83094-CB	DPDT	Black snap-on	1.76	1.58	1.47	1.32

6 AMP AC-DC INTERMEDIATE SERIES

Wiping blade contacts with quick make-break action. Molded phenolic base; solder lug terminals; bright nickel finished exposed parts. Slotted sleeve 15/32"-32 x 1/2" lg. Rated at 1 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Button Style	Net Each, Lots of 1-24	25-49	50-99	100-499
81081-G	SPDT	Std. metal	$2.33	$2.10	$1.94	$1.75
81084-G	DPST-NO	Std. metal	2.80	2.52	2.33	2.10
81087-J	DPDT	Std. metal	3.02	2.72	2.52	2.27

AC-DC HEAVY DUTY SERIES

Wiping contacts; molded phenolic base. Screw terminals. Slotted sleeve 15/32"-32; contacts NO. Std. metal button. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

A-H Number	Circuit	Sleeve Length, Inches	Net Each, Lots of 1-24	25-49	50-99	100-499
80630	DPST	7/16	$2.53	$2.27	$2.11	$1.90
80631	SPST	7/16	2.53	2.27	2.11	1.90
80938*	DPST	7/16	3.84	3.46	3.20	2.88

*Rated 10 A, 250 V; 20 A, 125 V; 1½ hp, 125–250 V.

DOUBLE ACTION PUSH-PUSH SWITCHES
6 AMP AC-DC SERIES

Wiping blade contacts; molded phenolic base. Solder lug terminals except No. 82404 has 6" wire leads. Standard metal button. Rated at 3 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Sleeve Length, Inches	Net Each, Lots of 1-24	25-49	50-99	100-499
82403	SPST	5/16	$1.29	$1.16	$1.08	$0.97
82404	SPST	5/16	1.46	1.31	1.22	1.09
81117	DPDT	5/16	2.56	2.30	2.13	1.92

16 AMP AC-DC SERIES

Wiping contacts; molded phenolic base. Screw terminals. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

80863	DPST	5/16	$2.58	$2.32	$2.15	$1.94
81951*	DPST	5/16	3.70	3.33	3.09	2.78

*Rated at 10 A, 250 V; 20 A, 125 V; 1½ hp, 125–250 V.

SLIDE SWITCH

Wiping action for positive, no-tease contact; quick make-break action. Molded phenolic base; bright nickel finished exposed parts. Screw Terminals; black slide lever. Rated at 3 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Net Each, Lots of 1-24	25-99	100-499	500-999
81569	SPST	$1.70	$1.53	$1.42	$1.27

AVAILABLE ON REQUEST—PLEASE INQUIRE

- **SWITCHES: PORTABLE TOOL, PRECISION SNAP-ACTING, MISCELLANEOUS**
- **MINIATURE PRECISION CIRCUIT BREAKERS**
- **SWITCH OPTIONS, MOUNTING HARDWARE AND MISCELLANEOUS ACCESSORIES**

TWO-POSITION MAINTAINED ROTO-POWER SWITCHES
3 AMP AC-DC SERIES

Roller action contacts; laminated base construction; bright nickel finished exposed parts. Solder lug terminals. Slotted sleeve 1 1/32"-32 x 3/8" lg. Rated at 1 A, 250 V; 3 A, 125 V.

A-H Number	Circuit	Spindle Projection	Net Each, Lots of 1-24	25-49	50-99	100-499
1561-B	SPST	3/8"	$1.52	$1.37	$1.27	$1.14
1561-BS	SPST	1 1/8"	1.52	1.37	1.27	1.14

6 AMP AC-DC INTERMEDIATE SERIES

Wiping blade contact mechanism; molded phenolic base. Bright nickel finished exposed parts. Solder lug terminals. Slotted sleeve 1 1/32"-32 x 3/8" lg. Rated at 1 A, 250 V; 6 A, 125 V.

81715	SPST	3/8"	$2.05	$1.85	$1.71	$1.54
81715-J	SPST	1 1/8"	2.05	1.85	1.71	1.54
81721	SPDT	3/8"	2.09	1.88	1.75	1.57
81721-J	SPDT	1 1/8"	2.30	2.07	1.92	1.73
81727	DPDT	3/8"	2.99	2.69	2.50	2.25
81727-J	DPDT	1 1/8"	2.99	2.69	2.50	2.25

TWO-POSITION MAINTAINED ROTARY LOCK SWITCHES
3 AMP AC-DC CANOPY SERIES

Roller action contacts; laminated base; bright nickel finished exposed parts and dress nut. Slotted sleeve 15/32"-32 x 15/32" lg. Solder lug terminals. Two keys provided with each switch. Rated at 1 A, 250 V; 3 A, 125 V.

A-H Number	Circuit	Key Removable	Net Each, Lots of 1-24	25-49	50-99	100-499
1561-L	SPST	Off	$2.92	$2.62	$2.43	$2.19
1561-LE	SPST	Both	2.92	2.62	2.43	2.19
1572-L	DPST	Off	3.70	3.33	3.08	2.77
1565-L	SPDT	Both	2.99	2.69	2.49	2.24
1575-L	DPDT	Both	3.71	3.34	3.09	2.78

6 AMP AC-DC INTERMEDIATE SERIES

Wiping blade contacts; molded phenolic base, bright nickel finished exposed parts and dress nut. Slotted sleeve 15/32"-32 x 15/32" lg. Solder lug terminals. Two keys provided with each switch. Rated at 3 A, 250 V; 6 A, 125 V.

81715-L	SPST	Off	$2.62	$2.36	$2.19	$1.97
81715-LE	SPST	Both	2.62	2.36	2.19	1.97
81724-L	DPST	Off	3.32	2.99	2.77	2.49
81724-LC	DPST	Both	3.32	2.99	2.77	2.49
81721-L*	SPDT	Both	2.77	2.49	2.31	2.08
81727-L	DPDT	Both	3.61	3.25	3.01	2.71

*Rated at 1 A, 250 V; 6 A, 125 V.

6 AMP AC-DC HIGH SECURITY SWITCHES

High quality Corbin locks; wiping blade contacts; molded phenolic base. Bright nickel finished exposed parts and dress nut. Slotted sleeve 7/8" dia. x 45/64" lg. Solder lug terminals. Two keys provided with each switch. Rated at 3 A, 250 V; 6 A, 125 V.

81715-LQ61	SPST	Off	$10.31	$ 9.28	$8.59	$7.73
81721-LQ61*	SPDT	CCW	10.82	9.74	9.02	8.11
81724-LQ61	DPST	Off	11.33	10.20	9.44	8.50
81727-LQ61	DPDT	CCW	11.83	10.65	9.86	8.87
81715-LQ41	SPST	Both	10.31	9.28	8.59	7.73
81721-LQ41*	SPDT	Both	10.82	9.74	9.02	8.11
81724-LQ41	DPST	Both	11.33	10.20	9.44	8.50
81727-LQ41	DPDT	Both	11.83	10.65	9.86	8.87

*Rated at 1 A, 250 V; 6 A, 125 V.

MULTI-POSITION MAINTAINED ROTARY LOCK SWITCHES

Slow make-break contacts; molded phenolic base; slotted sleeve 15/32"-32 x 1/2" lg. Rated at 20 A, 120–240 VAC; 1½ hp, 120 VAC; 2 hp, 240 VAC. **No. 82787-B:** Diecast lock; quick-connect terminals with 3/32" hole in terminal. One lock key. **No. 70307-LA:** Stamped lock; screw terminals; two lock keys.

A-H Number	Circuit	Positions	Net Each, Lots of 1-24	25-49	50-99	100-499
82787-B	DPST	4	$3.05	$2.74	$2.54	$2.29
70307-LA	DPST	2	2.96	2.67	2.47	2.22

LOCK KEYS

Supplied in standard package of 25 pieces.

A-H Number	Key is Removable in Position	Net Each, Lots of 1-24	25-49	50-99	100-499
1561-487	Both	$0.25	$0.22	$0.21	$0.185
1561-488	Off only	.25	.22	.21	.185
1561-1487	Both	.25	.22	.21	.185
1561-1488	Off only	.25	.22	.21	.185
1561-1489	Both, 2" shaft	.....	.....	.....	.....
B-721	For Illinois locks	.....	.....	.....	.....

AC-DC PORTABLE TOOL SWITCHES

Momentary pressure lever switches feature all-molded construction and double insulated design. Specify screw or press-fit terminals. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

A-H Number	Description	Net Each, Lots of 1-24	25-49	50-99	100-499
83815-D	Momentary extended	$2.32	$2.09	$1.94	$1.74
83815-DL*	trigger	2.76	2.48	2.30	2.07

*With locking latch.

Lens

Actuator-Indicator

Contact Block

845

CTS-3

CTS-3-P

ADAPT-A-SWITCH LIGHTED PUSHBUTTON SWITCHES

Building block construction uses 31 stock components to build 25,344 different variations—lighted or unlighted pushbutton switches, or lighted indicators. Features low operating force, low profile, easy high density mounting (.710″ spacing), fingertip grip for easy cap removal, long life. Double break wiping contacts; UL spacing. Mar-resistant lenses are available in 7 colors and three shapes; actuator-indicators with momentary or alternate action; contact blocks with standard duty or low energy rating. Contact blocks can be finger-snap added to actuator-indicator module at any time. **Maximum Operating Force:** 1 pole, 12 oz. momentary, 16 oz. alternate action; 2 poles, 24 oz. mom., 32 oz. alternate; 3 poles, 36 oz. mom., 48 oz. alternate; 4 poles, 48 oz. momentary. **Lamp:** Accepts T-1¾ incandescent midget groove base lamp (not included). **Life:** 100,000 operations sug. **To Order:** Illuminated switch consists of a Lens, Actuator-Indicator and Contact Block(s); order each item separately. Non-illuminated switch consists of an opaque Lens, Actuator-Indicator, and Contact Block(s). Write for information on legend imprinting.

ACTUATOR-INDICATORS

Tin plated solder terminals accept #18 wire. Plunger travel, .094″. Mount in .640″ x .576″ oval hole; 1.406″ deep behind panel, 1.706″ deep overall. With mounting nut.

A-H No.*	Action	Use with Lens	STANDARD PKG. OF 20 Net Each, Lots of 1-24	25-49	50-99	100-499
83501	Momentary	Rect.	$1.54	$1.23	$1.23	$1.16
83504	Alternate	Rect.	2.42	1.94	1.94	1.82
83502	Momentary	Square	1.54	1.23	1.23	1.16
83505	Alternate	Square	2.42	1.94	1.94	1.82
83503	Momentary	Round	1.54	1.23	1.23	1.16
83506	Alternate	Round	2.42	1.94	1.94	1.82
83507	None*	Rect.	1.87	1.50	1.50	1.40
83508	None*	Square	1.87	1.50	1.50	1.40
83509	None*	Round	1.87	1.50	1.50	1.40

*Indicator unit only; will not accept contact blocks.

LENSES

Size: Rectangular, .750″ x .500″; square, .500″ x .500″; round, .500″ diameter.

A-H Number* 83500- Rect.	Sq.	Rd.	Color	STANDARD PKG. OF 20 Net Each, Lots of 1-24	25-49	50-99	100-499
70	80	90	White	$0.22	$0.18	$0.18	$0.17
71	81	91	Red	.22	.18	.18	.17
72	82	92	Green	.22	.18	.18	.17
73	83	93	Blue	.22	.18	.18	.17
74	84	94	Yellow	.22	.18	.18	.17
75	85	95	Amber	.22	.18	.18	.17
76	86	96	Black*	.22	.18	.18	.17

*Black opaque lenses for non-illuminated switches.

CONTACT BLOCKS

Standard Type has fine silver contacts rated 5 amps at 125 VAC resistive, 2 amps at 250 VAC resistive, 5 amps at 28 VDC resistive. Low Energy Type has gold plated contacts for applications under 100 mW; rated 10 μA minimum, 50 mV for dry circuit applications. Form Z two-circuit contacts. Positive snap with contact wipe. Momentary action actuator-indicators can use up to four contact blocks; alternate action, up to three contact blocks. Solid fine silver solder terminals.

A-H No.*	Type	STANDARD PKG. OF 100 Net Each, Lots of 1-24	25-49	50-99	100-499
83500-30	Standard	$1.65	$1.32	$1.32	$1.24
83600-30	Low Energy	2.75	2.20	2.20	2.06

ADAPT-A-SWITCH ACCESSORIES

A-H No.*	Description	STANDARD PKG. OF 100 Net Each, Lots of 1-24	25-99	100-499	500-999*
83500-51	Snap-on Clip converts actuator-indicator to indicator only	$0.20	$0.16	$0.15	$0.14
83500-46	Round Snap-on Bezel; bright chrome finish	.20	.16	.15	.14
83500-45	Mounting Wrench	1.00	.80	.75	.70

***All components must be purchased in standard quantity packages.** Total actuator-indicator quantity will determine the appropriate discount for all components on a single order; actuator-indicators can be assorted to obtain maximum quantity discounts. Other parts (i.e. contact blocks, lenses, wrenches, bezels, snap-on clips) when purchased on separate orders will take discount to each individual item quantity.

845 SERIES SUBMINIATURE ROTARY SWITCHES

Positive-action rotary switches with low energy precision gold plated silver contacts. Molded Melamine thermosetting plastic body per MIL-M-14, Type CMG. Solder terminals with gold flash for excellent solderability (PC terminals available). **Contact Ratings:** ¼ amp at 115 VAC or 28 VDC resistive; 20 mA at 115 VDC resistive; 50 mA at 115 VAC inductive; 4 amps continuous. **Contact Resistance:** .01 ohm initial; .020 ohm maximum after 25,000 cycles. **Insulation Resistance:** Exceeds 200 megohms at 1000 VDC, 70° F. **Dielectric Strength:** 1000 V rms. **Life:** 50,000 operations, average. **Temperature Range:** −65° C to +85° C. **Stop Strength:** 15 lbs. minimum **Rotational Torque:** 8–48 oz -in. **Shaft:** ⅛″ dia. flat shaft, or screwdriver slot. **Size:** Body .562″ dia.; .770″ dia. overall; mounting sleeve 5/16″ long, ¼-32-UNEF-2A thread. With two hex nuts and one lock washer. **How To Order:** Available with 1 to 12 decks, 1 or 2 poles per deck, 2 to 10 positions per single pole per deck; 2 to 5 positions per double pole per deck. Specify base number **845** followed by suffixes to indicate no. of decks (**01** to **12**), no. of poles (**-P1**, 1-pole; or **-P2**, 2-pole), no. of positions per deck (**01** to **10**) and terminal type (**-S**, solder; or **-P**, printed circuit). Example: 84502-P104-S has two decks, one pole, 4 positions per deck and solder terminals. Prices shown are for solder terminals; for PC terminals, add **10c** to 1–24 Price.

STANDARD MODELS

See above **How To Order** for switches not listed. Pricing available on request.

PRICING FOR SINGLE POLE SWITCHES

No. of Decks	Net Each, Lots of 1-24* Number of Positions per Deck 1	2	3	4	5	6	8	10
2	$6.40	$6.60	$ 6.80	$ 7.70	$ 7.20	$ 7.40	$ 7.80	$ 8.20
4	9.30	9.70	10.10	10.50	10.90	11.30	12.10	12.90

PRICING FOR DOUBLE POLE SWITCHES

No. of Decks	Net Each, Lots of 1-24* Number of Positions per Deck 1	2	3	4	5
2	$ 7.80	$ 8.00	$ 8.20	$ 8.40	$ 8.60
4	12.10	12.50	12.90	13.30	13.70

■QUANTITY PRICING FOR SERIES 845 SWITCHES

Deduct from 1-24 Price, For Lots of 25-99	100-499	500-999	1000-9999
−20%	−25%	−30%	−35%

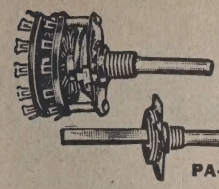
IEC SERIES SUBMINIATURE TOGGLE SWITCHES

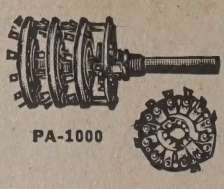
Lever action switches meet Continental European Standards as prescribed by International Electrotechnical Commission. Compatible with Arrow-Hart Series A switches. High quality phenolic base with chrome plated mild steel case, chrome plated brass lever. Combination solder lug-quick connect terminals. **Contact Rating:** 2 amps at 250 VAC, 5 amps at 29 VDC. **Contact Resistance:** 4 milliohms maximum, initial. **Insulation Resistance:** 10,000 megohms minimum. **Life:** 50,000 operations average electrical, 200,000 operations mechanical. **Operating Force:** 150–200 grams. **Angular Movement:** 34° (±2°) total. **Size:** .551″ x .256″ x 1.381″ overall, single pole, .551″ x .510″ x 1.381″, double pole. Bushing mount in .260″ dia. panel hole.

A-H No.	Contacts	Action	Net Each, Lots of 1-24	25-49	50-99	100-499
CTS-3	SPDT	On-none-on	$1.42	$1.14	$1.14	$1.07
CTS-3-P	SPDT*	On-none-on	1.42	1.14	1.14	1.07
CTC-3	SPDT	On-off-on	1.58	1.26	1.26	1.19
CTC-3-P	SPDT*	On-off-on	1.58	1.26	1.26	1.19
CTS-6	DPDT	On-none-on	1.89	1.51	1.51	1.42
CTS-6-P	DPDT*	On-none-on	1.89	1.51	1.51	1.42
CTC-6	DPDT	On-off-on	2.15	1.72	1.72	1.61
CTC-6-P	DPDT*	On-off-on	2.15	1.72	1.72	1.61
Same as above except momentary switching action.						
CTM-3	SPDT	On-none-on	$1.80	$1.44	$1.44	$1.35
CTE-3	SPDT	On-off-on†	1.80	1.44	1.44	1.35
CTG-3	SPDT	On†-off-on†	1.80	1.44	1.44	1.35
CTM-6	DPDT	On-none-on†	3.25	2.60	2.60	2.44
CTE-6	DPDT	On-off-on†	3.25	2.60	2.60	2.44
CTG-6	DPDT	On†-off-on†	3.25	2.60	2.60	2.44

*Straight lever; all others, bat lever. †Momentary.

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST


PA-2000


PA-1000

SERIES PA-2000 MINIATURE CERAMIC SWITCHES

Insulated with Grade L-422, or better, steatite; only 1½" dia. (⅜" smaller than standard switches). Same ratings as larger switches. Features maximum voltage flashover; high Q, low loss steatite body; minimum intercircuit capacity; insulated front-back clips. Durable construction. Rated: 2.75 amps, 15 VDC; 230 mA, 115 VAC, make-break resistive load. Breakdown, 1500 VAC rms between critical parts. One-piece shaft for accurate indexing. Adjustable stop or continuous rotation; mounts in single hole with locating lug. Bushing ⅜"-32 thread, ⅜" long. Shaft, full round ¼" dia. x 2¼" long from mtg. surface. With mtg. nut, lockwasher and knob. Shpg. Wt., 3 oz. per section. **Bulk switches supplied less knobs and instruction sheets. For switches to meet military specifications, write for prices and information.**

SERIES PA-1000 MINIATURE PHENOLIC SWITCHES

Insulated with type PBE laminated phenolic per MIL-3115-B. Same size as PA-2000 ceramic switches. Rated: 2.75 amps, 15 VDC; 230 mA, 115 VAC. Breakdown, 1500 VAC. Positive, adjustable stop or continuous rotation; 30° or 60° detents available. Supplied with knob and instruction sheet. Shpg. Wt., 3 oz. per section. **Bulk switches supplied less knobs and instruction sheets. Military specifications available as above.**

MINIATURE ROTARY SWITCHES

No. Sect.	Total No. Poles	PA-2000 Ceramic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.	PA-1000 Phenolic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.
1	1	2000	2001	2–12	1000	1001	2–11
1	2	2002	2003	2–6	1002	1003	2–5
2	2	2004	2005	2–12	1004	1005	2–11
1	3	2006	2007	2–5	1006	1007	2–3
3	3	2008	2009	2–12	1008	1009	2–11
1	4	.....	.....	.....	1010	1011	2
2	4	2010	2011	2–6	1012	1013	2–5
4	4	2012	2013	2–12	1014	1015	2–11
1	5	2014	2015	2–3	.....	.....	.....
5	5	2016	2017	2–12	1016	1017	2–11
1	6	2018	2019	2	.....	.....	.....
2	6	2020	2021	2–5	1018	1019	2–3
3	6	2022	2023	2–6	1020	1021	2–5
6	6	2024	2025	2–12	1022	1023	2–11
2	8	.....	.....	.....	1024	1025	2
4	8	2026	2027	2–6	1026	1027	2–5
3	9	2028	2029	2–5	.....	.....	.....
3	12	.....	.....	.....	1028	1029	2
2	10	2030	2031	2–3	.....	.....	.....
5	10	2032	2033	2–6	1030	1031	2–5
2	12	2034	2035	2	.....	.....	.....
6	12	2036	2037	2–6	1032	1033	2–5
3	15	2038	2039	2–3	.....	.....	.....
3	18	2040	2041	2	.....	.....	.....

SPECIAL CIRCUIT AND 60° INDEXING SWITCHES

1	1	2052*	.....	2–10	1034*	.....	2–10
1	1	2042†	.....	2–10	1040†	.....	2–10
2	2	2048‡	2049‡	2–12	.....	.....	.....
2	2	2050§	.....	4	.....	.....	.....
1	1	.....	2043#	2–6	.....	1035#	2–6
2	2	.....	2045#	2–6	.....	1037#	2–6

*All shorted to common in full CCW, progressively opened and dropped with CW rotation. †All open in full CCW, progressively picked up and shorted to common with CW rotation. ‡Silver clips and contacts. §For switching dual lines. #60° Indexing; 1½" spacing between sections.

SEPARATE SECTIONS

For use with 30° index assemblies No. PA-300, PA-301 and PA-302, except Nos. PA-17, PA-20 and PA-45, for use with 60° index assemblies PA-304 and PA-305.

Ask for Section Pricing.

No. Poles	Indexing	PA-2000 Ceramic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.	PA-1000 Phenolic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.
1	30°	0	1	2–12	30	31	2–11
2	30°	2	3	2–6	32	33	2–5
3	30°	4	5	2–5	34	35	2–3
4	30°	.....	.....	.....	36	37	2
5	30°	6	7	2–3	.....	.....	.....
6	30°	8	9	2	.....	.....	.....
1	30°	10*	19*	2–5	38*	39*	2–5
2	30°	11†	18†	2–11	40†	41†	2–11
1	30°	12§	.....	2–10	43‡	.....	2–10
1	30°	13‡	.....	2–10	49§	.....	2–10
1	60°	20	17	2–6	.....	45	2–6

*Unused contacts one side of common connected and shorted out. †All unused contacts connected and shorted out. ‡Active contacts shorted to common in full CCW, progressively opened and dropped with CW rotation. §All active contacts open in full CCW, progressively picked up and shorted to common with CW rotation.

SILVER CLIPS AND CONTACTS (CERAMIC)

Ask for Section Pricing.

CRL Number Shorting	Non-Shorting	Index	No. of Poles	No. of Positions
PA-16	PA-21	30°	1	2–12
PA-14	PA-23	30°	2	2–6
PA-15	PA-24	30°	4	2

INDUSTRIAL NET PRICES

SERIES PA-2000 CERAMIC

CRL No. PA- Shtg.	Non-Shtg.	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
2000	2001	$2.89	$2.60	$2.31	$1.83
2002	2003	3.11	2.79	2.48	1.97
2004	2005	4.44	3.98	3.55	2.80
2006	2007	3.21	2.89	2.56	2.03
2008	2009	6.12	5.51	4.90	3.90
2010	2011	4.90	4.42	3.92	3.10
2012	2013	7.64	6.89	6.10	4.83
2014	2015	3.39	3.05	2.72	2.14
2016	2017	9.20	8.28	7.36	5.84
2018	2019	3.22	2.90	2.57	2.04
2020	2021	5.41	4.87	4.33	3.43
2022	2023	6.70	6.04	5.36	4.24
2024	2025	10.60	9.80	8.70	6.92
2026	2027	8.59	7.73	6.86	5.44
2028	2029	6.95	6.27	5.56	4.40
2030	2031	5.45	4.92	4.37	3.44
2032	2033	9.50	8.55	7.60	6.02
2034	2035	5.23	4.72	4.19	3.32
2036	2037	12.60	11.18	9.84	7.80
2038	2039	7.25	6.53	5.80	4.59
2040	2041	7.65	6.88	6.11	4.84
2042	2043	2.72	2.45	2.18	1.76
.....	2045	4.00	3.61	3.21	2.54
2048	2049	5.64	5.08	4.52	3.58
2050	.....	3.57	3.21	2.86	2.27
2052	.....	2.91	2.62	2.32	1.85

SERIES PA-1000 PHENOLIC

1000	1001	$2.44	$2.19	$1.96	$1.45
1002	1003	2.50	2.24	2.00	1.49
1004	1005	3.35	3.00	2.68	1.99
1006	1007	2.52	2.26	2.02	1.50
1008	1009	4.36	3.93	3.49	2.60
1010	1011	2.70	2.43	2.17	1.60
1012	1013	3.49	3.12	2.79	2.08
1014	1015	5.52	4.97	4.42	3.29
1016	1017	6.54	5.88	5.23	3.90
1018	1019	3.60	3.23	2.88	2.14
1020	1021	4.52	4.09	3.63	2.70
1022	1023	7.19	6.46	5.75	4.29
1024	1025	3.66	3.27	2.92	2.18
1026	1027	5.52	4.97	4.42	3.29
1028	1029	4.80	4.32	3.85	2.87
1030	1031	6.89	6.20	5.50	4.10
1032	1033	7.55	6.76	6.04	4.50
1034	1035	2.47	2.22	1.98	1.47
.....	1037	3.49	3.12	2.79	2.08
1040	.....	2.47	2.22	1.98	1.47

SEPARATE INDEX ASSEMBLIES

Index assemblies for series PA-1000 and PA-2000 interchangeable.
CRL No. PA-300 Assembly—Contains PA-300 (30°) index, P-120 pointer knob, adjustable stop plate, two ⅛" spacers, two 9/32" spacers, four 7/16" spacers, 2½" tie bolts, nuts, lockwashers and fiber spacer washers. Rear shaft length 2". Use with 1 to 3 sections.
CRL No. PA-301 Assembly—Contains PA-301 index (30°), P-120 pointer knob, adjustable stop plate, two ⅛" spacers, two 9/32" spacers, ten 7/16" spacers, four 15/16" spacers, 5" tie bolts and hardware. Rear shaft length 4". Use with 4 to 6 sections.
CRL No. PA-302 Assembly—Contains PA-302 (30°) index, P-120 pointer knob, adjustable stop plate, four 3/16" spacers, two 9/32" spacers, sixteen 7/16" spacers, eight 15/16" spacers, 7" tie bolts, and hardware. Rear shaft length 6". Use with 7 to 9 sections.
CRL No. PA-304 Assembly—Contains PA-304 (60°) index and hardware same as PA-300. Rear shaft length 2". Use with 1 to 3.
CRL No. PA-305 Assembly—Contains PA-305 (60°) index and hardware same as PA-301. Rear shaft length 4". 4 to 6 sections.

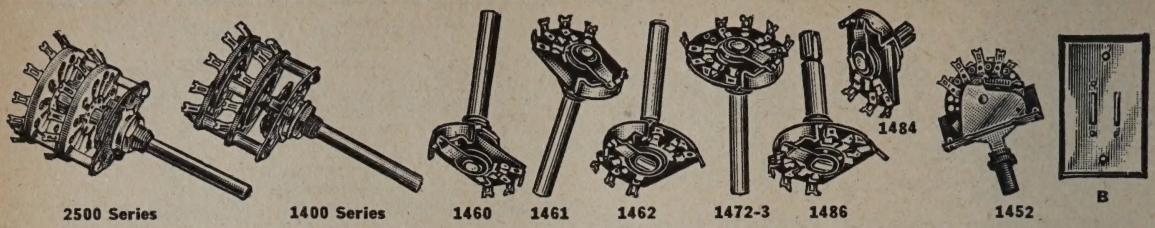
CRL No.	Indexing	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
PA-300	30°	$1.59	$1.48	$1.28	$1.19
PA-301	30°	2.33	2.10	1.87	1.73
PA-302	30°	3.28	2.95	2.63	2.43
PA-304	60°	1.59	1.48	1.28	1.19
PA-305	60°	2.33	2.10	1.87	1.73

PACKAGED SWITCH HARDWARE

FOR PA-1000 & PA-2000 SERIES MINIATURE SWITCHES

CRL No.	Description	Pkg. 100	CRL No.	Description	Pkg. 100
P-319	Min. stop plate	$6.00	P-348	7/16" steatite spacer	$ 6.00
P-325	5/16" steatite spacer	6.00	P-350	15/16" steatite spacer	6.00
P-326	9/32" steatite spacer	6.00	P-352	1" steatite spacer	10.00
P-328	¼" steatite spacer	6.00	P-362	1" screw	18.00
P-329	9/32" steatite spacer	6.00	P-370	2" screw	20.00
P-330	5/16" steatite spacer	6.00	P-374	2½" screw	20.00
P-332	⅜" steatite spacer	6.00	P-382	4" screw	26.00
P-334	7/16" steatite spacer	6.00	P-384	5" screw	26.00
P-336	½" steatite spacer	6.00	P-388	7" screw	32.00
P-340	5/8" steatite spacer	6.00	P-390	Nut	2.00
P-342	11/16" steatite spacer	6.00	P-392	Lockwasher	2.00
P-344	¾" steatite spacer	6.00	P-394	Phen. spacer washer	2.00

CENTRALAB LEVER AND ROTARY SWITCHES



SERIES 2500 CERAMIC ROTARY SWITCHES

Highest quality (Grade L-422 or better) steatite insulation. Meet critical requirements of RF circuit applications. Bushing ⅜"-32 thread ⅜" long. Shaft 2¼" long, ¼" full round. Sections 1⅞" dia. Positive index 30° with adjustable stop. Index assemblies and hardware are identical and interchangeable with those of the 1400 Series. Switches include pointer knob, nut and lockwasher. Rated: 2.75 amps, 15 VDC; 350 mA, 115 VAC. Breakdown, 1500 VAC between critical parts. Shipping Weight, 5 oz. per section.

SERIES 1400 PHENOLIC ROTARY SWITCHES

Extremely compact design. Mounting bushings ⅜"-32 thread, ⅜" long. Shafts 2¼" from mtg. surface; ¼" full round. Sections 1⅞" dia. Positive 30° index with adjustable stop. With mounting nut, lockwasher and pointer knob. Index assemblies and hardware are identical and interchangeable with those of 2500 series. Rated: 2.75 amps at 15 VDC; 350 mA at 115 VAC. Breakdown, 1000 VAC rms. Shipping Weight, 4 oz. per section.

ROTARY SELECTOR SWITCHES

Ceramic Types CRL Number		No. Sections	Total No. Poles	No. Positions	Phenolic Types CRL Number	
Shorting	Non-Short.				Shorting	Non-Short.
2500	2501	1	1	2–6	1400	1401
2502	2503	1	1	2–11	1402	1403
2504	2505	1	2	2–5	1404	1405
2510	2511	2	2	2–6	1410	1411
2512	2513	2	2	2–11	1412	1413
2506	2507	1	3	2–3	1406	1407
2520	2521	3	3	2–6	1420	1421
2522	2523	3	3	2–11	1422	1423
.....	.....	1	4	2	1408	1409
2514	2515	2	4	2–5	1414	1415
.....	.....	4	4	2–6	1426	1427
.....	.....	4	4	2–11	1428	1429
2516	2517	2	6	2–3	1416	1417
2524	2525	3	6	2–5	1424	1425
.....	.....	2	8	2	1418	1419
.....	.....	4	8	2–5	1430	1431

SEPARATE SECTIONS

Deluxe Types: .187" rotor slot, use P-270, P-271, P-272 indexes.

Ceramic Types CRL Number				Phenolic Types CRL Number	
Shorting	Non-Short.	No. Poles	No. Positions	Shorting	Non-Short.
TD	XD	1	2–6	AD	HD
UD	YD	1	2–11	BD	JD
RD	RRD	2	2–5	CD	KD
SD	SSD	3	2–3	DD	LD
VD	ZD	4	2	ED	MD
.....	.....	4	2–3	EED	BBD
.....	.....	1	2–5	FD**	AAD**
GGD*	FFD*	1	2–11	GD*	CCD*
PISD‡	.....	1	2–10	PID‡	.....
NSD and PSD	.....	Resistance Decade†		ND and PD	.....
QSD	.....	Capacitance Decade		QD	.....

*All unused contacts connected and shorted out. ‡9 contacts, open in full CW, progressively picked up and shorted to common with CWW rotation. †Combine for resistance decade switch. **Unused contacts one side of common connected and shorted out.

SEPARATE INDEX ASSEMBLIES

Deluxe Type: 1-piece shaft .187" thick flat; use deluxe 1400 or 2500 Series sections. Complete assembly has index, pointer knob and hardware. **No. P-270:** For 1–3 sections; 2" rear shaft. **No. P-271:** 3–5 sects.; 4" rear shaft. **No. P-272:** 5–10 sects.; 8" rear shaft.

INDUSTRIAL NET PRICES
CERAMIC SWITCHES, SECTIONS

CRL Number	Net Each			
	1-24	25-49	50-99	100-Up
2500, 2501	$3.52	$3.15	$2.82	$2.10
2502, 2503	3.68	3.30	2.94	2.20
2504, 2505	3.79	3.40	3.06	2.26
2506, 2507	3.88	3.48	3.10	2.32
2510, 2511	5.01	4.50	4.01	2.99
2512, 2513	5.62	5.06	4.50	3.36
2514, 2515	5.77	5.20	4.63	3.44
2516, 2517	6.05	5.43	4.85	3.62
2520, 2521	6.95	6.26	5.56	4.15
2522, 2523	7.70	6.91	6.17	4.59
2524, 2525	8.10	7.26	6.50	4.82
INDEX ASSEMBLIES				
P-270	$2.14	$1.91	$1.71	$1.59
P-271	2.50	2.24	2.00	1.85
P-272	3.76	3.38	3.01	2.79

PHENOLIC SWITCH SECTIONS

CRL Number	Net Each			
	1-24	25-49	50-99	100-Up
1400–1403	$2.83	$2.55	$2.27	$1.68
1404, 1405	2.78	2.50	2.22	1.65
1406, 1407	3.00	2.70	2.40	1.79
1408, 1409	3.08	2.78	2.47	1.84
1410, 1411	3.68	3.30	2.95	2.20
1412, 1413	4.07	3.66	3.27	2.43
1414, 1415	4.25	3.80	3.40	2.54
1416, 1417	4.60	4.13	3.69	2.75
1418, 1419	4.69	4.20	3.76	2.80
1420, 1421	4.78	4.28	3.83	2.85
1422, 1423	5.49	4.92	4.40	3.28
1424, 1425	5.70	5.11	4.57	3.41
1426, 1427	6.02	5.40	4.83	3.60
1428, 1429	7.12	6.41	5.70	3.99
1430, 1431	7.30	6.55	5.48	4.35
AAD	1.15	1.03	.92	.85
CCD	1.72	1.54	1.37	1.28
AD, HD	1.08	.97	.87	.80
BBD, EED	2.77	2.48	2.22	2.05
JD, ND, PID	1.37	1.23	1.09	1.01
LD	1.58	1.42	1.27	1.17
MD	1.75	1.57	1.40	1.30

ROTARY ACTION FLAT SWITCHES

Laminated phenolic insulation. Rated: 1.75 amps, 28 VDC; 350 mA, 115 VAC. Breakdown, 1000 VAC rms. Bushing ⅜"-32 thread, ⅜" long. Shaft ¼" dia., 2¼" long. Shipping Weight, 3 oz.

CRL No.	No. Poles	No. Pos.	Net Each			
			1-24	25-49	50-99	100-Up
1451*†	4	2	$3.70	$3.32	$2.97	$2.21
1488*†	6	3	4.40	3.96	3.53	2.64
1489*‡	6	3	4.40	3.96	3.53	2.64

*Non-shorting. †Spring return. ‡Combination positive and spring return index.

GENERAL PURPOSE SWITCHES

Laminated phenolic insulation. Rated: 1.5 amps, 28 VDC; 230 mA, 115 VAC. Breakdown, 1000 VAC rms. Bushing ⅜"-32 thread, ⅜" long except 1484, ¼". Positive index unless otherwise noted.

CRL No.	No. Poles	No. Pos.	Net Each			
			1-24	25-49	50-99	100-Up
1460	1	2	$1.22	$1.09	$0.98	$0.73
1461	1	3	1.28	1.15	1.03	.77
1462	2	2	1.73	1.55	1.39	1.03
1463*†	1	2	1.53	1.37	1.23	.91
1464*†	2	2	2.06	1.85	1.65	1.24
1472*	2	3	1.42	1.27	1.14	.85
1473	2	3	1.38	1.24	1.11	1.02
1484#	1	3	1.38	1.24	1.11	1.02
1486•	2	3	1.90	1.71	1.52	1.14

*Non-shorting; all others shorting. †Spring return indexing. ‡3 active with AC-DPST line switch. §Remote speaker switch. #Remote auto radio spkr. switch. •Remote stereo spkr. switch.

LEVER ACTION SWITCHES

Mounted singly or in groups on special plates; adaptable to intercoms, PA, test instruments, broadcast, industrial applications. Positive and/or spring return index design with shtg. or non-shtg. contacts. Laminated phenolic insulation; clips and contacts, silver-plated brass. Rated 1.5 A at 28 VDC, 230 mA at 115 VAC. Two-hole mtg. bkt. supplied with 6-32 tapped holes. Single switch 7/16" w. x 1⅞" h. x 1½" d. behind panel. With knob and mtg. hdwe. Shpg. Wt., 4 oz.

CRL No.					Net Each			
Shorting	Non-Shorting	No. Poles	No. Pos.	Index	1-24	25-49	50-99	100-Up
1452	1454	2	3	Pos.	$2.10	$1.89	$1.68	$1.25
1453	1455	2	3	Sp.	2.27	2.03	1.82	1.35
1466	1467	2	3	Pos., Sp.	2.10	1.89	1.68	1.25
1456	1457	4	2	Sp.	2.50	2.24	2.00	1.49
1459	1458	4	2	Pos.	2.42	2.17	1.94	1.44

Mounting Plates for Lever Switches (Fig. B)—For use in electrical outlet boxes. Satin chrome steel with mtg. holes 3⅝6" between centers. Shipping Weight, 4 oz. Size, 2¾" x 4½".

CRL No.	No. Switches	Net Ea. Lots of 100	CRL No.	No. Switches	Net Ea. Lots of 100
P-221	2	$0.87	P-222	1	$0.82

PACKAGED SWITCH HARDWARE FOR 1400 AND 2500 SERIES SWITCHES

CRL No.	Description	Pkg. 100	CRL No.	Description	Pkg. 100
P-124	¼″ metal spacer	$2.00	P-145	7″ screw	$50.00
P-125	⅜″ metal spacer	2.00	P-146	9″ screw	52.00
P-126	½″ metal spacer	2.00	P-147	Nut	2.00
P-127	¾″ metal spacer	2.00	P-148	Lockwasher	2.00
P-128	1″ metal spacer	2.00	P-177	Phenol. spacer wshr.	2.00
P-136	1″ screw	2.00	P-181	⅛″ steatite spacer	6.00
P-137	1½″ screw	4.00	P-187	¼″ steatite spacer	6.00
P-138	2″ screw	6.00	P-188	⅜″ steatite spacer	6.00
P-139	2½″ screw	6.00	P-189	½″ steatite spacer	6.00
P-149	4¼″ screw	10.00	P-190	⅝″ steatite spacer	10.00
P-143	5″ screw	48.00	P-192	1″ steatite spacer	10.00

FOR PA-6000 SERIES MILITARY SWITCHES

P-395	Min. MIL screw	10.00	P-397	Min. MIL lockwasher	$2.00
P-396	Min. MIL nut	2.00	P-398	MIL spacer washer	2.00

FOR PS-100 SERIES SUBMINIATURE SWITCHES

P-515	1⅛″ screw	10.00	P-522	1/16″ steatite spacer	$4.00
P-516	Nut	2.00	P-523	3/16″ steatite spacer	4.00
P-519	Spacer washer	2.00	P-524	7/32″ steatite spacer	4.00
P-520	⅛″ steatite spacer	2.00	P-527	Lockwasher	2.00
P-521	3/32″ steatite spacer	2.00			

MIL-S-3786 STYLE SR03 MINIATURE CERAMIC SWITCHES

Designed to meet MIL-S-3786. Insulated with Grade L-422, or better, steatite, Dow Corning 200 Silicone treated against surface moisture. Breakdown, 1000 VAC rms between critical parts. Coin silver clips and contacts; hot tin-dipped terminals. Adjustable stops or continuous rotation on 30° index. Ceramic sections 1 9/16″ dia. x .125″ th. Single hole mounting with locating lug at 17/32″ radius. Bushing, ⅜″-32NEF-2A threaded, ⅜″ lg. from mtg. surface. Shaft ¼″ dia. full round, 2¼″ lg. from mtg. surface. With nut, lockwasher and P-120 pointer knob. Rating: 450 mA at 115 VAC; 8 amps, 6 VDC; 5.5 amps, 12 VDC (make-break resistive load).

SERIES PA-6000 SWITCHES

CRL Number		Poles to Section	No. Sections	No. Poles	No. Positions
Shorting	Non-Short				
PA-6000	PA-6001	1	1	1	2–11
PA-6002	PA-6003	2	1	2	2–5
PA-6004	PA-6005	1	2	2	2–11
PA-6006	PA-6007	3	1	3	2–3
PA-6010*	PA-6011*	4	1	4	2
PA-6012	PA-6013	2	2	4	2–5
PA-6018	PA-6019	3	2	6	2–3
PA-6024*	PA-6025*	4	2	8	2

*Fixed, 2-position stop.

SEPARATE INDEX ASSEMBLY

CRL No. PA-600—Used with PA-60, PA-70 or PA-80 separate sections to assemble special units of 1 to 4 sections; 30° indexing. Rear shaft 2″ long.

SEPARATE SECTIONS, 30° INDEXING

Used with PA-600 index assembly. Hot solder-dipped terminals. Coin silver clips and contacts. Switch sections are 1 9/32″ dia. and rated 1000 VAC rms breakdown between critical parts. Phenolic units .062″ thick; others .125″ thick.

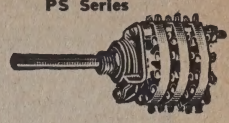
Total Poles	No. Pos.	Phenolic Secs. Shorting	Phenolic Secs. Non-Short.	Mycalex* Secs. Shorting	Mycalex* Secs. Non-Short.	Ceramic Secs. Shorting	Ceramic Secs. Non-Short.
1	2–11	PA-60	PA-61	PA-70	PA-71	PA-80	PA-81
2	2–5	PA-62	PA-63	PA-72	PA-73	PA-82	PA-83
3	2–3	PA-64	PA-65	PA-74	PA-75	PA-84	PA-85
4	2	PA-66	PA-67	PA-76	PA-77	PA-86	PA-87

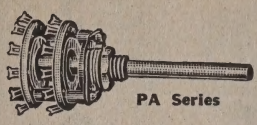
INDUSTRIAL NET PRICES

CRL Number	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
PA-6000, PA-6001	$4.50	$4.04	$3.60	$2.85
PA-6002, PA-6003	4.56	4.09	3.66	2.89
PA-6004, PA-6005	6.87	6.16	5.50	4.35
PA-6006, PA-6007	4.90	4.41	3.92	3.11
PA-6010, PA-6011	4.44	4.00	3.56	2.84
PA-6012, PA-6013	7.12	6.38	5.70	4.49
PA-6018, PA-6019	7.05	6.32	5.65	4.47
PA-6024, PA-6025	7.04	6.30	5.63	4.45
PA-600	2.36	2.12	1.89	1.75
PA-60, PA-61	1.70	1.56	1.36	1.26
PA-62 thru PA-65	1.77	1.61	1.45	1.33
PA-66, PA-67	2.03	1.85	1.65	1.51
PA-70, PA-71	2.76	2.49	2.22	2.05
PA-72, PA-73	2.83	2.55	2.27	2.10
PA-74, PA-75	2.85	2.57	2.28	2.11
PA-76, PA-77	2.95	2.65	2.36	2.19
PA-80, PA-81	2.05	1.85	1.64	1.54
PA-82, PA-83	2.13	1.92	1.71	1.58
PA-84, PA-85	2.17	1.95	1.77	1.61
PA-86, PA-87	2.22	2.00	1.78	1.64

NOTE: Items requiring certified test data and government source inspection are special. Prices and information supplied on request. *Mycalex Corp. of America TM.

PS Series





PA Series

MULTIPLE POSITION SWITCHES

Laminated phenolic insulation, type PBE per MIL-P-3115. Voltage breakdown between critical parts 1000 VAC, rms. Bushing ⅜″ thd., ⅜″ lg. Shaft ¼″ dia., 2¼″ lg. from mtg. surface. **PA-3000 Series**—18 position. Rated 2.25 amps, 28 VDC; 350 mA, 115 VAC (make-break resistive load). Provides accurate, crisp indexing in both single and multiple-section versions through use of hill-and-dale index. Sections 2 1/64″ w. x 2 5/16″ h. x 1/16″ thick. Positive 20° indexing, **PA-4000 Series**—24 position. Rated 2.75 amps, 28 VDC; 230 mA, 115 VAC. Sections 1¾″ w. x 2 5/16″ h. x 1/16″ thick. Shpg. Wt., 4 oz. per section.

CRL No. PA- Short.	Non-Short.	*	No. Pos.	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
3000	3001	1	2–17	$4.36	$3.79	$3.37	$2.67
3002	3003	2	2–17	7.26	6.33	5.62	4.44
3004	3005	3	2–17	9.04	8.15	7.24	5.70
3006	3007	4	2–17	11.59	10.55	9.55	7.55
4000	4001	1	2–23	3.42	3.08	2.74	2.17
4002	4003	2	2–23	5.46	4.92	4.37	3.46
4004	4005	3	2–23	7.04	6.33	5.63	4.44
4006	4007	4	2–23	9.19	8.25	7.35	5.80

*Number of poles and number of sections.

SERIES PS SUBMINIATURE ROTARY SWITCHES

Deluxe, ceramic insulated rotary switches that are ultra-small. Weigh less than 1 oz. each, yet have the same electrical ratings as switches much heavier and larger. Ideally suited for band switching, transistor circuits, aircraft instruments, etc. Insulation is Dow Corning 200 Silicone treated Grade L-422, or better, steatite; breakdown, 750 VAC rms between critical parts. **Size:** ⅛″ thick ceramic sections and ceramic spacers; spacing between front plate and first section, 5/16″. All hardware except clips, contacts, and index spring are of cadmium plated steel. **Mounting:** Single hole with optional locating lug on ⅜″ radius. Bushing ¼″-32 thread, ¼″ long. Shaft ⅛″ dia. x 1¼″ long. **Rated:** Make and break, resistance load .550 amp at 28 volts DC, 170 milliamps at 115 VAC. **Index:** Positive 30°; fixed stop.

CRL Number *	†	Total Poles	No. Pos.	‡	No. Sec.	CRL Number *	†	Total Poles	No. Pos.	‡	No. Sec.
PS-100	PS-101	1	11	1	1	PS-112	PS-113	4	2	4	1
PS-102	PS-103	2	11	1	2	PS-114	PS-115	6	5	2	3
PS-104	PS-105	2	5	2	1	PS-116	PS-117	6	3	3	2
PS-106	PS-107	3	11	1	3	PS-118	PS-119	8	2	4	2
PS-108	PS-109	3	3	3	1	PS-120	PS-121	9	3	3	3
PS-110	PS-111	4	5	2	2	PS-122	PS-123	12	2	4	3

*Shorting. †Non-shorting. ‡Poles per section.

SERIES PS SEPARATE SECTIONS (CONTINUED)

Ceramic* CRL No. Short.	Ceramic* CRL No. Non-Short.	Phenolic* CRL No. Short.	Phenolic* CRL No. Non-Short.	Total Poles	No. Pos.	Fixed Stop Indexing
PS-20	PS-21	PS-40	PS-41	1	11	
PS-22	PS-23	PS-42	PS-43	2	5	Use P-501
PS-24	PS-25	PS-44	PS-45	3	3	thru P-511
PS-26	PS-27	PS-46	PS-47	4	2	

*Breakdown voltage, 750 VAC rms.

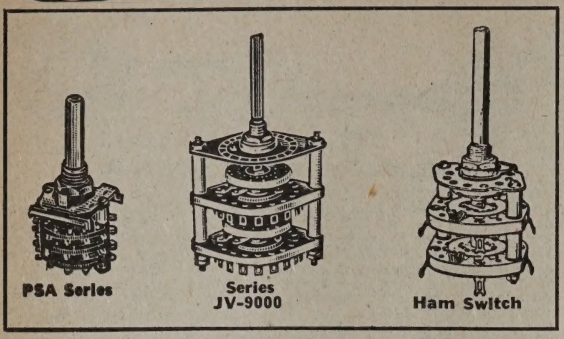
SEPARATE INDEX ASSEMBLIES

Designed for maximum of three sections. Includes: Index and shaft assembly; hardware and instructions.

CRL No.	No. of Pos.	CRL No.	No. of Pos.	CRL No.	No. of Pos.	CRL No.	No. of Pos.
P-501	2	P-504	5	P-507	8	P-510	11
P-502	3	P-505	6	P-508	9	P-511	Continuous
P-503	4	P-506	7	P-509	10		Rotation

INDUSTRIAL NET PRICES

CRL No. Shorting	Non-Shorting	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
PS-100	PS-101	$5.40	$4.89	$4.33	$3.22
PS-102	PS-103	8.17	7.36	6.55	4.87
PS-104	PS-105	5.78	5.21	4.63	3.44
PS-106	PS-107	10.56	9.56	8.50	6.34
PS-108	PS-109	5.83	5.25	4.67	3.47
PS-110	PS-111	8.35	7.51	6.67	4.96
PS-112	PS-113	6.20	5.59	4.96	3.70
PS-114	PS-115	11.15	10.02	8.91	6.65
PS-116	PS-117	8.95	8.05	7.15	5.32
PS-118, PS-119		9.75	8.80	7.81	5.80
PS-120, PS-121		12.50	11.28	10.00	7.45
PS-122, PS-123		13.82	12.10	10.55	8.00
PS-20, PS-21		2.43	2.19	1.95	1.80
PS-22, PS-23		2.63	2.37	2.10	1.95
PS-24, PS-25		2.93	2.64	2.35	2.19
PS-26, PS-27		3.40	3.06	2.72	2.52
PS-40, PS-41		1.86	1.68	1.49	1.39
PS-42, PS-43		2.03	1.83	1.63	1.51
PS-44, PS-45		2.35	2.12	1.88	1.74
PS-46, PS-47		2.66	2.40	2.13	1.97
P-501 thru P-511		2.55	2.29	2.04	1.89



SERIES PSA SUBMINIATURE ROTARY SWITCHES

Features an index mechanism with adjustable stops. Rugged, 2-ball-starwheel lateral thrust construction for excellent torque control. For use in band-switching, ultra small electronic equipment, transistor circuits, aircraft instruments, etc. Stator and rotor have diallyl phthalate insulation; resistance, 900,000 megs. **Size:** Furnished with diallyl phthalate sections .203″ ±.005″ thick across strut holes, .080″ thick across clip surface-to-surface. Spaced 9/32″ between front plate and clip surface of first section and 5/32″ spacing between sections. **Mounting:** Bushing, 3/8″-32 NEF thread x 3/8″ long; locating lug on 3/8″ radius. Shaft, 1/4″ dia. x 1 3/8″ long from mtg. surface. All hardware plated to resist corrosion; index spring, strut screws and lockwashers stainless steel; clips and rotor contacts, silver-plated brass. **Rated:** Make and break resistive load .550 A at 28 VDC, 170 mA at 115 VAC. **Index:** Positive 30° with adjustable stops.

CRL Number		Total Poles	No. of Positions	Poles per Sec.	No. of Sections
Shorting	Non-Shorting				
PSA-200	PSA-201	1	2–12	1	1
PSA-202	PSA-203	2	2–6	2	1
PSA-204	PSA-205	2	2–12	1	2
PSA-206	PSA-207	3	2–5	3	1
PSA-208	PSA-209	3	2–12	1	3
PSA-210	PSA-211	4	2–6	2	2
PSA-214	PSA-215	5	2–3	5	1
PSA-220	PSA-221	6	2–5	3	2
PSA-222	PSA-223	6	2–6	2	3
PSA-228	PSA-229	9	2–5	3	3
PSA-230	PSA-231	10	2–3	5	2
PSA-238	PSA-239	15	2–3	5	3

DIALLYL PHTHALATE SEPARATE SECTIONS

CRL Number		Total Poles	No. Pos.	CRL Number		Total Poles	No. Pos.
Shtg.	Non-Shtg.			Shtg.	Non-Shtg.		
PS-50	PS-51	1	2–12	PS-54	PS-55	3	2–5
PS-52	PS-53	2	2–6	PS-56	PS-57	5	2–3

INDEX ASSEMBLIES

Includes index, hardware and instructions; PS-20 and PS-40 sections can also be used.

CRL No.	No. Pos.	No. Sec.	CRL No.	No. Pos.	No. Sec.
PSA-512	2–12	1–2	PSA-513	2–12	3–5

INDUSTRIAL NET PRICES

CRL No. PSA-		Net Each			
Shorting	Non-Shorting	1-24	25-49	50-99	100/Pkg. 100-Up
200	201	$5.02	$4.49	$4.02	$3.18
202	203	5.22	4.72	4.19	3.32
204	205	7.25	6.53	5.80	4.59
206	207	5.33	4.81	4.27	3.38
208	209	9.51	8.55	7.61	6.02
210	211	7.70	6.93	6.16	4.86
214	215	5.74	5.16	4.59	3.63
220	221	8.11	7.31	6.49	5.13
222	223	10.40	9.42	8.13	6.42
228	229	11.52	10.49	9.30	7.35
230	231	8.46	7.63	6.77	5.30
238	239	11.39	10.18	8.95	7.06
512	.....	2.68	2.42	2.14	1.99
.....	513	3.06	2.76	2.45	2.28
PS-50	PS-51	2.08	1.86	1.65	1.54
PS-52	PS-53	2.43	2.19	1.95	1.80
PS-54	PS-55	2.52	2.27	2.02	1.85
PS-56	PS-57	2.88	2.59	2.30	2.14

SEPARATE INDEX ASSEMBLIES

Deluxe 60° Types: 2-piece shaft with phenolic rear, metal front; for high voltage operation; use ZZD section for 60°.

CRL No. 60°	Rear Shaft	Suggested No. Sections
P-273	2″	1 to 2
P-274	4 1/4″	3 to 4
P-275	7″	5 to 8

CRL Number Index Assembly	Net Each			
	1-24	25-49	50-99	100/Pkg. 100-Up
P-273	$3.47	$3.10	$2.78	$2.57
P-274	4.24	3.80	3.39	3.14
P-275	5.26	4.70	4.21	3.90

SERIES JV-9000 HEAVY-DUTY POWER SWITCHES

Rotary power switch insulated with Grade L-422, or better, steatite. Rated: 9 amps, 110 VAC; 30 amps, 5 VDC; 15 mA, 2500 VAC. Breakdown, 3000 VAC rms between critical parts. Coin silver contacts; 20° indexing adjustable stop. Mtg. bushing 3/8″-32 thread, 3/8″ long. Sections 2 13/16″ dia. Shpg. Wt., 6 oz per section.

SERIES JV-9000 ROTARY SWITCHES

CRL Number		Poles to Section	No. Sections	No. Poles	No. Positions
Shorting	Non-Shorting				
JV-9000	JV-9001	1	1	1	2–17
JV-9002	JV-9003	3	1	3	2–5
JV-9004	JV-9005	1	2	2	2–17
JV-9006	JV-9007	3	2	6	2–5
JV-9008	JV-9009	1	3	3	2–17
JV-9010	JV-9011	3	3	9	2–5
JV-9012	JV-9013	1	4	4	2–17
JV-9014	JV-9015	3	4	12	2–5
JV-9016	JV-9017	1	5	5	2–17
JV-9018	JV-9019	3	5	15	2–5
JV-9020	JV-9021	1	6	6	2–17
JV-9032	JV-9033	2	1	2	2–8
JV-9034	JV-9035	2	2	4	2–8
JV-9036	JV-9037	2	3	6	2–8
JV-9038	JV-9039	2	4	8	2–8

SERIES JV-9000 SEPARATE SECTIONS

CRL Number		Number Poles	Number Positions
Shorting	Non-Shorting		
JV-8	JVN-8	1	2–17
JV-9	JVN-9	3	2–5
JV-10	JVN-10	2	2–8
JV-18*	JVN-18*	1	2–18

*Rotor has 17 fingers making contact with 17 contacts on stator, leaving one contact open. By cutting off unwanted fingers this section can be adapted to special circuits, e.g., one off, nine progressively shorting positions.

SERIES JV-9000 DIAL PLATES, INDEX ASSEMBLY

CRL Nos. P-230, P-231 or P-232—2 3/4″ dia., etched aluminum on black background; 20°; marked 1-5 for P-230, 1-8 for P-232, and 1-17 for P-231.

CRL No. JV-7 Index Assembly—Includes shaft, tie rods, spacers, nuts and lockwashers, adjustable stop pin, 2″ black bar knob and dial plate.

INDUSTRIAL NET PRICES

CRL No.	Net Each			
	1-24	25-49	50-99	100/Pkg. 100-Up
JV-9000 and JV-9001	$13.52	$11.57	$ 10.51	$ 8.60
JV-9002 and JV-9003	15.51	13.51	12.00	9.85
JV-9004 and JV-9005	22.91	19.58	17.54	14.54
JV-9006 and JV-9007	26.30	23.20	20.60	16.56
JV-9008 and JV-9009	35.35	31.05	27.30	21.81
JV-9010 and JV-9011	37.39	32.82	29.10	23.81
JV-9012 and JV-9013	41.20	35.82	31.90	26.18
JV-9014 and JV-9015	49.10	42.70	37.95	30.60
JV-9016 and JV-9017	50.75	44.20	39.15	32.08
JV-9018 and JV-9019	59.95	52.00	46.25	37.90
JV-9020 and JV-9021	59.90	51.95	46.20	37.60
JV-9032 and JV-9033	14.41	12.52	11.18	9.13
JV-9034 and JV-9035	24.19	21.10	18.53	15.35
JV-9036 and JV-9037	34.10	29.80	26.22	21.75
JV-9038 and JV-9039	44.25	38.29	34.14	27.90
JV-8	10.50	9.50	8.45	7.82
JVN-8	10.51	9.50	8.45	7.82
JV-9 and JVN-9	11.58	10.55	9.55	8.85
JV-10 and JVN-10	10.04	9.15	8.19	7.59
JV-18 and JVN-18	11.53	10.05	9.32	8.62
JV-7 Index	6.47	5.83	5.18	4.80
P-230 thru P-232	.22	.....	.....	.....

STEATITE HAM-TYPE SWITCHES

Heavy-duty Grade L-422, or better, steatite insulation for ham applications. Available in 60° index only. All metal parts except clips and contacts are cadmium plated steel; all units have phenolic shaft through switch sections. Positive index with adjustable stop; 60° units have 2 to 6 active positions. Convenient single-hole mounting: 3/8″-32 thread bushing 3/8″ long. Shaft 1/4″ dia., 2 1/4″ long, full round. Rated: 350 milliamps at 115 VAC; 5 milliamps at 1500 VAC; 2.25 amps at 28 VDC, will handle 15 watts; for tubes operating at voltages up to 1 kV and inputs to 150 watts. Unit complete includes mounting nut, lockwasher, pointer knob and dial plate. Shipping Weight, 4 oz. per section.

NON-SHORTING HAM SWITCHES

CRL No. 60°	No. Poles*	Net Each, Lots of			
		1-24	25-49	50-99	100/Pkg. 100-Up
2550	1	$ 5.73	$ 5.15	$ 4.59	$ 3.58
2551	2	7.29	6.56	5.84	4.55
2552	3	7.69	6.89	6.15	4.80
2553	4	11.43	10.31	9.16	7.16
2554	5	13.71	12.30	11.00	8.59
ZZD†	1	1.37	1.22	1.10	1.01

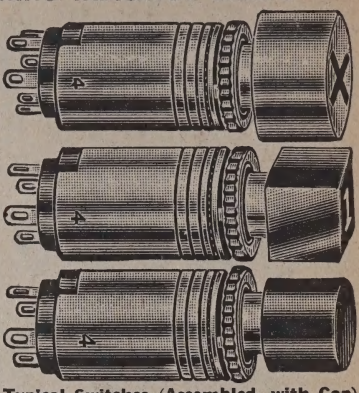
*One pole per section. †Separate section; use with "P" Series index assemblies.

DIALIGHT Lighted Pushbutton Switches & Indicator Lights

DIALCO®

SINGLE-HOLE MOUNTING PUSHBUTTON SWITCHES AND MATCHING INDICATOR LIGHTS

Convenient, modular design allows assembly of an illuminated switch to meet your particular requirement. **Three Switch Assemblies:** Choice of NO, NC or 2-Circuit arrangements in two styles: One to accommodate screw-in type caps; another for friction-fit caps. Switch contacts rated 3 amps resistive at 125 VAC or 30 VDC. UL Listed. **Caps:** Choice of screw-in and friction fit (rotatable or keyed) styles in ½", ⅝" or ¾" sizes, round or square shape, and a choice of colors. **Matching Indicator Lights:** Available in two sizes to match your indicating switches. Simply select the indicator base assembly size desired, and add the cap of your choice (the same caps used with switches).



Typical Switches (Assembled, with Cap)

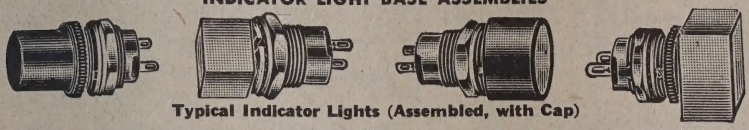
SWITCH BASE ASSEMBLIES

Single-hole mounting; fit panels up to 3/16" thick. Size, .650" dia. x 1 15/32" lg.

Switch Circuit	For Friction-Fit Caps Either ½" or ¾" Cap Size	For Screw-In Caps Only ½" mtg.	For Screw-In Caps Only 15/32" mtg.	Net Each, Lots of 1-9	10-24	25-99*
SPST-NO	513-0101-604	513-0105-604	513-0104-604	$4.71	$4.04	$3.80
SPST-NC	513-0201-604	513-0205-604	513-0204-604	4.71	4.04	3.80
2-Circuit*	513-0301-604	513-0305-604	513-0304-604	5.21	4.46	4.16

*One circuit NO, one circuit NC.

INDICATOR LIGHT BASE ASSEMBLIES



Typical Indicator Lights (Assembled, with Cap)

Accommodate T-1¾ incandescent lamp from 1.35 to 28 V. Accept friction-fit caps, keyed or rotatable, ½" or ¾" size. Length, 27/32" max.

Dialco Number	Description	Net Each, Lots of 1-9	10-24	25-99*
183-9730-14-602	For 15/32" hole, front mounting (.549" dia.)	$1.52	$1.29	$1.21
183-9830-14-604	For ½" hole, front or rear mount (.560" dia.)	1.52	1.29	1.21

COLOR OF LENS FACE

Indicated by last figure in Dialco number. For simplicity, all numbers listed use suffix **"1"** to indicate the lens face is **Red.** When a color other than red is required, change the last figure per following list:

Last Figure in No.	Lens Face Color
1	Red (as listed)
2	Green
3	Amber (yellow)
4	Blue
5	White (translucent)
6	Light yellow
8	Ivory

Examples: 183-1472 (Green)
300-1874 (Blue)

CAPS FOR SWITCH BASE ASSEMBLIES OR INDICATOR LIGHT

Friction-fit caps are available in round or square shapes; choice of keyed (non-rotatable) or rotatable style; ½" or ¾" size. Screw-in caps fit only the switch base assemblies designated for them; come only in ½" round configuration. **Colors:** All items listed are red as indicated by **1**, the last digit in the ordering number (e.g., 183-1471). **For other colors, see color table;** same prices. Legends may be hot-stamped or engraved; pricing on request.

½" FRICTION-FIT AND SCREW-IN CAPS

Description	Shape	Friction Fit Caps: Rotatable Number	Friction Fit Caps: Keyed Number (Non-Rotatable)	Screw-In Cap Number	Net Each, Lots of 1-9	10-24	25-99*
Solid Color, Translucent Face and Sides	Round	183-1471	186-1471	192-1471	$0.86	$0.76	$0.70
	Square	185-1871	184-1871	.....	.86	.76	.70
Translucent Colored Face, Black Opaque Sides	Round	183-5071	186-5071	192-5071	.86	.76	.70
	Square	185-5071	184-5071	.....	.86	.76	.70
Translucent Colored Face, Gray Opaque Sides	Round	183-5171	186-5171	192-5171	.86	.76	.70
	Square	185-5171	184-5171	.....	.86	.76	.70

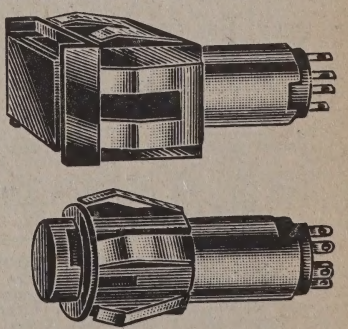
¾" FRICTION-FIT CAPS

Solid Color, Translucent Face and Sides	Round	191-1471	188-1471	.....	$1.19	$1.08	$1.00
	Square	190-1871	187-1871	.....	1.19	1.08	1.00
Translucent Colored Face, Black Opaque Sides	Round	191-5071	188-5071	.....	1.19	1.08	1.00
	Square	190-5071	187-5071	.....	1.19	1.08	1.00
Translucent Colored Face, Gray Opaque Sides	Round	191-5171	188-5171	.....	1.19	1.08	1.00
	Square	190-5171	187-5171	.....	1.19	1.08	1.00

SNAP-IN MOUNTING PUSHBUTTON SWITCHES AND MATCHING INDICATOR LIGHTS

SWITCH BASE ASSEMBLIES

Snap-in mounting for panels up to 3/16" thick. Includes bezel, clip and spanner ring. Momentary non-snap action switches have contacts rated 3 amps resistive at 125 VAC or 30 VDC. Life at rated load, 100,000 operations. Suffix **001** in Dialco number indicates black bezel; to specify gray bezel, change 001 to **002** (e.g., 513-0106-**002**). Other bezel colors available on special order. Rectangular bezel units interchangeable with most 4-lamp displays.



Typical Snap-In Switches (Assembled, with Cap)

Switch Circuit	For ⅝" Sq. Cap	For ⅝" Rnd. Cap	For ¾" x 1" Cap Less Barrier	For ¾" x 1" Cap With Barrier	Net Each, Lots of 1-9	10-24	25-99*
SPST-NO	513-0106-001	513-0107-001	513-0109-001	513-0110-001	$5.68	$4.85	$4.56
SPST-NC	513-0206-001	513-0207-001	513-0209-001	513-0210-001	5.68	4.85	4.56
2-Circuit*	513-0306-001	513-0307-001	513-0309-001	513-0310-001	6.18	5.26	4.95

*One circuit NO, one circuit NC.

INDICATOR LIGHT BASE ASSEMBLIES

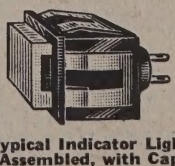
Accommodate T-1¾ incandescent lamp in a range of voltages to 28 V.

Bezel Color	For 300 Series ⅝" Sq. Cap	For 301 Series ⅝" Rnd. Cap	For 303 Series ¾" x 1" Cap Less Barrier	For 303 Series ¾" x 1" Cap With Barrier	Net Each, Lots of 1-9	10-24	25-99*
Black	533-0601	533-0701	533-0901	533-1001	$2.51	$2.16	$1.97
Gray	533-0602	533-0702	533-0902	533-1002	2.51	2.16	1.97

CAPS FOR INDICATOR LIGHT OR SWITCH BASE ASSEMBLIES

Items listed are red as indicated by **1**, the last digit in the ordering number (e.g., 300-1871). Also available in green, amber (yellow), blue, white, and light yellow. **To order, see color table;** same prices.

Dialco Number	Size	Net Each, Lots of 1-9	10-24	25-99*	Dialco Number	Size	Net Each, Lots of 1-9	10-24	25-99*
300-1871	⅝" sq.	$1.19	$1.08	$1.00	301-1471	⅝" rnd.	$1.19	$1.08	$1.00
306-1871	¾" sq.	1.33	1.19	1.10					

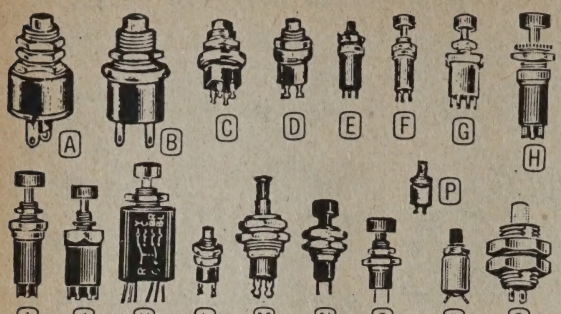


Typical Indicator Light (Assembled, with Cap)

Dialco Model 506-1500 Spanner Wrench—For snap-in mounting switches. Permits fastening bezel and clip to switch or matching indicator light base. Net Each.. **$6.54**

★**PRICES ON QUANTITIES OF 100-249, 250-499, 500-999 AND HIGHER ON REQUEST**

Grayhill® Pushbutton Switches



Precision-made pushbutton switches meet most requirements for versatility of switching. Voltage breakdown 1000 VAC between mutually insulated parts. Housing, button and internal bridge molded phenolic per MIL-M-14, Type CFG. Mounting nuts, bushing, washers, screws and nuts cadmium plated brass.

SERIES 2000 SNAP ACTION (FIG. A)

Momentary contact design; solder terminals or "Faston" terminal to accommodate ¼" push-on termination (7-21 and 7-22). Extremely fast make-and-break; audible click produced by snap action mechanism. Fine silver fixed and moving contacts. **Total Button Travel:** .065" approx. **Rated:** 10 amps at 115 VAC resistive for 25,000 operations. **Mounting:** 15/32-UNS-2A thread .454" long. Fits 31/64" dia. hole. **Size:** .880" O.D.; 1.176" behind panel; 1.903" overall; No. 7-26, 1.239" behind panel; 1.966" overall.

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
2201	SPST-NO, red button	$3.40	$2.89
7-7	SPST-NO, black button	3.40	2.89
7-21	SPST-NO, "Faston", red button	3.85	3.27
2202	SPST-NC, black button	3.40	2.89
7-8	SPST-NC, red button	3.40	2.89
7-22	SPST-NC, "Faston", black button	3.85	3.27
7-26B, R	SPDT, black or red button	4.75	4.04

SERIES 4000 WIPING CONTACT (FIG. B)

Available in standard contact action or positive feel contact action (10-100, 10-101); detent system is independent of contact system. Silver-plated beryllium copper contact solder terminals; tinned music wire spring. **Total Button Travel:** .140" ±.032" (4001, 10-9, 10-100); .110"+.020"-.010" (4002, 10-10, 10-101). **Rated:** 1 amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread, .375" long. Fits 31/64" dia. hole. **Size:** .800" O.D.; .965" behind panel; 1.50" overall.

4001UL*	SPST-NO, red button	$1.25	$1.06
10-9UL*	SPST-NO, black button	1.25	1.06
4002UL*	SPST-NC, black button	1.25	1.06
10-10UL*	SPST-NC, red button	1.25	1.06
10-100	SPST-NO, positive feel, red button	2.20	1.87
10-101	SPST-NC, positive feel, black button	2.20	1.87

*UL Listed.

SERIES 35 DOUBLE POLE (FIG. C)

Momentary contact switch has fine silver contact solder terminals; tinned music wire spring. **Total Button Travel:** .062" ±.015". **Rated:** ½ amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread, .375" long. Fits in 31/64" dia. hole. **Size:** .800" O.D.; .743" behind panel; 1.274" overall.

35-1	DPST-NO, red button	$1.75	$1.49
35-3	DPST-NO, black button	1.75	1.49

SERIES 23 WIPING CONTACT (FIG. D)

Miniature switches with silver-plated brass contact solder terminals; tinned music wire spring. **Total Button Travel:** .095" ±.010". **Rated:** ¼ amp at 115 VAC resistive for 100,000 operations. **Mounting:** 5/16-32 UNEF-2A thread, .250" long. Fits 21/64" dia. hole. **Size:** .468" O.D.; .663" behind panel; 1.059" overall.

23-1	SPST-NO, red button	$1.45	$1.23
23-4	SPST-NO, black button	1.45	1.23

SERIES 46 WIPING CONTACT

Series 46-100: SPDT break-before-make and make-before-break momentary contact switches. Silver-plated phosphor bronze contact members and solder terminals. Polycarbonate button; thermoplastic button cap. **Total Button Travel:** .180" min. **Rated:** ¼ amp at 115 VAC resistive for 250,000 operations. **Mounting:** ¼-32 UNEF-2A thread, .250" long. Fits 17/64" dia. hole. **Size:** .437" O.D.; .890" behind panel; 1.327" overall.

Series 46-200: Same as Series 46-100 except as follows: DPDT. **Size:** .921" behind panel; 1.56" overall.

MOMENTARY BREAK-BEFORE-MAKE

Grayhill Number	Fig.	Description	Net Ea., Lots 1-49	50-99
46-101B, R	E	SPDT, black or red button	$1.60	$1.36
46-102B, R	F	SPDT, black or red button cap	1.70	1.44
46-200B, R	G	DPDT, black or red button cap	3.40	2.89

MOMENTARY MAKE-BEFORE-BREAK

46-110B, R	E	SPDT, black or red button	$1.75	$1.49
46-111B, R	F	SPDT, black or red button cap	1.85	1.57
46-201B, R	G	DPDT, black or red button cap	3.75	3.19

SERIES 46-500 ALTERNATE ACTION

Provides alternate action (push-on/push-off) version of Series 46-100; specifications are the same except as follows: **Mounting:** 3/8-32 UNEF-2A thread, .312" long. **Size:** .437" O.D.; .937" behind panel; 1.677" overall.

Grayhill Number	Fig.	Description	Net Ea., Lots 1-49	50-99
46-502B, R	H	SPDT, black or red button cap	$3.70	$2.77

SERIES 46 SEALED WIPING CONTACT

Series 46-150 and 46-270 Series: SPDT and DPDT break-before-make and make-before-break switches with "O" ring seal to reduce possibility of contamination and insulating posts. Silver-plated phosphor bronze shorting bar and contact terminals; tinned music wire spring. Aluminum button with polyethylene cap. **Total Button Travel:** .180" min. **Rated:** ¼ amp at 115 VAC resistive for 100,000 operations. **Mounting:** ¼-32 UNEF-2A thread .250" long; .437" across flats of hex (.562", 46-270, -271). **Size:** .957" behind panel; 1.511" overall.

Series 46-260: Break-before-make momentary contact switch and wire leads encapsulated in potting compound provides accurate operation in adverse environments; "O" ring seal between plunger and bushing further reduces possibility of contamination. Aluminum button with polyethylene button cap. Insulated, copper stranded wire leads 20" long stripped and tinned ¼". **Total Button Travel:** .180" min. **Rated:** ¼ amp at 115 VAC resistive for 250,000 operations. **Mounting:** 3/8-32 UNEF-2A thread .281" long. Fits 25/64" dia. hole. **Size:** 1.121" behind panel; 1.706" overall.

MOMENTARY BREAK-BEFORE-MAKE

46-150B, R	I	SPDT, black or red button cap	$3.85	$3.27
46-270B, R	J	DPDT, black or red button cap	4.80	4.08
46-260B, R	K	DPDT, black or red button cap	11.00	9.35

MOMENTARY MAKE-BEFORE-BREAK

46-151B, R	I	SPDT, black or red button cap	$3.95	$3.36
46-271B, R	J	DPDT, black or red button cap	4.90	4.16

SERIES 30 BUTT CONTACT

Miniature SPST-NO or -NC momentary contact switches have fine silver shorting bar and contact solder terminals. **Total Travel:** .062" ±.010" (30-1, -3); .065"+.010"-.015" (30-2, -6); .125"+.020"-.010" (30-15, -37). **Rated:** 1 amp at 115 VAC resistive for one-million operations (500,000 operations 30-15, -37). **Mounting:** ¼-32 UNEF-2A thread .250" long. Fits 17/64" dia. hole. **Size:** .592" behind panel, .992" overall (30-1, -3); .605" behind panel, 1.005" overall (30-2, -6); .677" behind panel, 1.077" overall (30-15, -37).

Series 30-16, 30-32: Push-to-make pull-to-break (30-16) and pull-to-make push-to-break (30-32)switches. Passivated stainless steel detent balls; fine silver shorting bar and contact solder terminals. **Total Button Travel:** .145" ±.015". **Rated:** 1 amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread .421" long. Fits 31/64" dia. hole. **Size:** Hex mounting nut 9/16" across flats; .577" behind panel, 1.45" overall (30-16); .487" behind panel, 1.36" overall (30-32).

Series 30-17: Positive feel SPST-NO momentary switch with .046" min. overtravel. Fine silver shorting bar and contact solder terminals; polyethylene button cap. **Rated:** 1 amp at 115 VAC resistive for 200,000 operations. **Mounting:** 15/32-32 UNS-2A thread .421" long. Fits 31/64" dia. hole. **Size:** Mounting nut 9/16" across flats; .577" behind panel; 1.350" overall.

Series 30-250: SPST-NO or -NC momentary contact switches with polycarbonate button and polyethylene button cap; fine silver shorting bar and contact terminals. **Total Button Travel:** .060" ±.020". **Rated:** 1 amp at 115 VAC resistive for 100,000 operations. **Mounting:** ¼-32 UNEF-2A thread .250" long. Fits 17/64" dia. hole. **Size:** .437" across flats, 0.632" behind panel, 1.091" overall (30-251); .645" behind panel, 1.104" overall (30-252).

30-1UL*	L	SPST-NO, red button	$1.05	$0.89
30-2UL*	L	SPST-NC, black button	1.05	.89
30-3UL*	L	SPST-NO, black button	1.05	.89
30-6UL*	L	SPST-NC, red button	1.05	.89
30-15	L	SPST-NO, red button	1.25	1.06
30-37	L	SPST-NO, black button	1.25	1.06
30-16B, R	M	SPST, push-to-make, black or red button	2.00	1.70
30-32B, R	M	SPST, pull-to-make, black or red button	2.00	1.70
30-17B, R	N	SPST-NO, black or red button cap	1.75	1.49
30-251B, R	O	SPST-NO, black or red button cap	3.00	2.55
30-252B, R	O	SPST-NC, black or red button cap	3.00	2.55

*UL Listed.

SERIES 39 BUTT CONTACT

SPST-NO types have molded-in solder terminals in diallyl base; prevents flux contamination. Overtravel .015" min. (39-12) and .080" min. (39-101). Fine silver gold plated shorting bar and contact solder terminals. Limit switch 39-101 has nylon button and laminated phenolic insulator. **Voltage Breakdown:** 500 VAC between mutually insulated parts (39-101, 1000 VAC). **Total Button Travel:** .035" ±.015" (39-1, -3); .042" ±.010" (39-2); .130" ±.025" (39-12); .186" ±.025" (39-101). **Rated:** ½ amp at: one million operations (39-1, -3), 250,000 operations (39-101), 100,000 operations (39-12); rated ¼ amp at 250,000 operations (39-2). **Mounting:** 8-40 UNS-2A thread .125" long, fits 11/64" dia. hole except 39-101, 5/16-32 UNEF-2A thread .500" long, fits 21/64" "D" shaped hole. **Size:** .315" behind panel, .615" overall (39-1, -3); .455" behind panel, .755" overall (39-12); .490" behind panel, .780" overall (39-2); .650" plus .187" long button (39-101).

39-1	P	SPST-NO, red button	$1.35	$1.15
39-3	P	SPST-NO, black button	1.35	1.15
39-2	R	SPST-NC, black button	1.90	1.61
39-12	P	SPST-NO, black or red button	1.55	1.32
39-101	S	SPST-NO, white button	2.85	2.42

Grayhill® Pushbutton Switches

A

B

SERIES 39 RIGHT ANGLE PC (FIG. A)

Mount direct on PC boards with 100 mil centers. One NC and one NO section; may be wired for SPDT. Silver gold plate terminals and shorting bar. **Total Button Travel:** .050″+.010″–.015″. **Rated:** ¼ amp at 115 VAC resistive for 250,000 operations. **Mounting:** Flush mount (39-201) or standoff mounting (39-204). Soldering of all four terminals anchors switch to PC board. **Size:** .500″ w. x .250″ d. x .400″ h.

SERIES 41 INDICATOR LAMPS (NOT ILLUS.)

Companion lights to Series 40 pushbutton switches. Types 41-1 and 41-100 have lens projection equal to Series 40 switch; 41-2 and 41-101 have much shorter lens projection. Lamps are non-removable. **Lamps:** Types 41-1 and 41-2 use GE A9A neon or equivalent for 105–125 VAC/VDC; 100K ohms external surge resistor required. Types 41-100 and 41-101 use GE 1764 incandescent 28-volt lamp for intermittent duty, or 20-volt for continuous duty. **Size:** 41-1 and 41-100, .687″ in front of panel, .892″ behind panel; 41-2 and 41-101, .420″ in front of panel, 1.156″ behind panel. **Mounting:** ⅜-32 NEF-2A thread, .250″ long. **Colors:** Specify clear, transparent amber, transparent red, or frosted white for neon lamps; clear, transparent amber or red, frosted white, red, green or yellow for incandescent types.

SERIES 40 LIGHTED PUSHBUTTON (FIG. B)

Space saving, SPST-NO or -NC momentary contact switch with independent lamp and switch circuits. Solder terminals; black anodized aluminum housing and nut. Fine silver contacts and terminals; molded Tenite (or equivalent) button. **Rated:** 1 amp, 115 VAC resistive for 500,000 operations. **Button Travel:** .062″ ±.010″ for NO switches; .050″ ±.015″ for NC switches. **Lamp:** Neon, GE A9A or equivalent. Incandescent, GE 1764 (20 VDC max.) or equivalent. **Mounting:** ⅜-32 UNEF-2A thread, .25″ long. Fits $25\frac{64}{64}$″ dia. hole. **Size:** 1.156″ behind panel; 1.843″ overall for NO switch; 1.823″ overall for NC switch; .437″ O.D. **Colors:** Neon, specify clear, frosted white, transparent red, transparent amber; incandescent, specify clear, frosted white, frosted red frosted green, frosted yellow; transparent red or transparent amber.

PUSHBUTTON SWITCH AND INDICATOR LAMP PRICING

No.	Description	Net Ea., Lots 1-49	Net Ea., Lots 50-99
39-201B, R	SPDT-NO-NC, black or red button	$2.40	$2.04
39-204B, R	SPDT-NO-NC, black or red button	2.40	2.04
40-1	Neon lighted; NO; colored button	3.05	2.59
40-2	Neon lighted; NC; colored button	3.35	2.85
40-100	Incand. lighted; NO; colored button	3.40	2.89
40-102	Incand. lighted; NC; colored button	3.65	3.10
41-1	Neon lamp; long lens; specify color	2.20	1.87
41-2	Neon lamp; short lens; specify color	2.20	1.87
41-100	Incand. lamp; long lens; specify color	2.40	2.04
41-101	Incand. lamp; short lens; specify color	2.40	2.04

DECORATOR LINE SERIES 30 AND 46 FRONT PANEL BEZEL AND SUB-PANEL MOUNT SWITCHES

30-05-01

46-05-05

30-01-01

46-01-08

30-03-01

46-03-08

Attractive front panel bezel mount and sub-panel mount switches with choice of round and square pushbuttons and button cap color selection. Sub-panel mount switches accept either round or square button caps. **Series 30** are SPST butt contact momentary pushbutton switches. Available normally open or normally closed. Have fine silver shorting bar and terminals. Rated 1 amp, 115 VAC; 1,000,000 operations for Series 30 Part No's. ending with suffix -01 and -02; 500,000 operations for Part No's. ending with -03; 20,000 operations for Part No's. ending with -04. **Series 46** are SPDT and DPDT wiping contact momentary and alternate action pushbutton switches. Break-before-make. Silver plated bronze shorting bar and terminals. Rated ¼ amp, 115 VAC; 250,000 operations for all circuitry versions.

BEZEL MOUNT SWITCHES WITH ROUND PUSHBUTTONS

Sizes: Part No. 30-05-01, 1.280″ long, .932″ behind panel; 30-05-02, 1.268″ long, .920″ behind panel; 30-05-03, 1.350″ long, 1.002″ behind panel; 30-05-04, 1.480″ long, 1.132″ behind panel; 46-05-05, 1.526″ long, 1.179″ behind panel; 46-05-07, 1.713″ long, 1.465″ behind panel; 46-05-08, 1.536″ long, 1.337″ behind panel; 46-05-09, 1.665″ long, 1.467″ behind panel. O.D., for 46-05-08 and 46-05-09, .750″; balance, .625″. Pushbutton, .375″ dia. **Mountings:** ⅝-32 UN-2A thread, .355″ long for 46-05-08 and 46-05-09; balance, ½-32 UN-2A thread, .355″ long. Knurled ring nut. Fit panels up to ¼″ thick.

BEZEL MOUNT SWITCHES WITH SQUARE PUSHBUTTONS

Sizes: Part No. 30-01-01, 1.450″ long, 1.102″ behind panel; 30-01-02, 1.408″ long, 1.060″ behind panel; 30-01-03, 1.490″ long, 1.142″ behind panel; 30-01-04, 1.607″ long, 1.259″ behind panel; 46-01-05, 1.709″ long, 1.361″ behind panel; 46-01-07, 1.799″ long, 1.451″ behind panel; 46-01-08 and 46-01-09, 1.568″ long, 1.194″ behind panel. Pushbutton, .485″ square; .687″ square. overall. **Mountings:** ½-32 UN-2A thread. Knurled ring nut. Fit panels from .020″ to .125″ thick. Part No's. 46-01-08 and 46-01-09 fit panels from .010″ to .218″ thick.

SUB-PANEL MOUNT SWITCHES WITH ROUND OR SQUARE PUSHBUTTONS

Sub-panel mount switches accept either round or square button caps. **Sizes:** Part No. 30-03-01, 1.456″ long, .581″ behind sub-panel; 30-03-02, 1.413″ long, .538″ behind sub-panel; 30-03-03, 1.484″ long, .609″ behind sub-panel; 30-03-04, 1.474″ long, .509″ behind sub-panel; 46-03-05, 1.765″ long, .890″ behind sub-panel; 46-03-07, 1.812″ long, .937″ behind sub-panel; 46-03-08, 1.763″ long, .888″ behind sub-panel; 46-03-09, 1.812″ long, .937″ behind sub-panel. All measure .546″ behind front panel. Square pushbutton, .485″ square. Round pushbutton, .375″ dia. Hex nut .500″ across flats, .093″ thick. **Mounting:** ⅜-32 UNEF-2A thread, except 30-03-04, $1\frac{1}{32}$-32 UNEF-2A thread.

BUTTON CAP COLOR SELECTION FOR DECORATOR LINE SERIES 30 & 46 PUSHBUTTON SWITCHES

Bottom cap color and top cap color—buttons for the round and square bezel mounted switches and the square sub-panel mounted switches can be made in two colors. When assembled, the lower color forms a color ring. This color ring disappears in the down position. The effect is particularly adaptable to alternate action switches as an indication of switch position. Translucent top cap can be ordered for the ½″ square caps to provide an attractive appearance when used with their corresponding opaque color as the bottom half of the button. Clear transparent top used with the ½″ square button cap permits the legend to be stamped internally for legend protection.

BUTTON CAP SELECTION COLOR CODE

Opaque		Translucent		Transparent
01—White	05—Blue	61—White	64—Green	20—Clear
03—Red	06—Yellow	62—Amber	66—Yellow	
04—Green	07—Black	63—Red		

COLOR AVAILABILITY

Solid Color: Round or square buttons have same top and bottom color notations. **Two-Color:** Round button cap available for bezel mount only. Sub-panel mount in solid color only.

Solid Color	Two-Color			
Round or Square	Round Button Cap		Square Button Cap	
	Bottom	Top	Bottom	Top
01	03	01	01	01 20
03	07	03	03	03 61
04		07	04	04 62
05			05	05 63
06			06	06 64
07			07	07 66

PRICES FOR FRONT PANEL BEZEL MOUNT SWITCHES

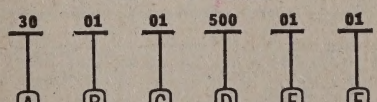
Grayhill Part No.* Round Buttons	Grayhill Part No.* Square Buttons	Description	Net Each, Lots of 1-49	Net Each, Lots of 50-99
30-05-01	30-01-01	SPST Momentary (NO)	$2.40	$2.04
30-05-02	30-01-02	SPST Momentary (NC)	2.65	2.25
30-05-03	30-01-03	SPST Momentary†	2.50	2.12
30-05-04	30-01-04	SPST Momentary‡	3.25	2.76
46-05-05	46-01-05	SPDT Momentary	2.50	2.12
46-05-07	46-01-07	SPDT Alternate Action	4.10	3.48
46-05-08	46-01-08	DPDT Momentary	3.60	3.06
46-05-09	46-01-09	DPDT Alternate Action	5.10	4.33

PRICES FOR SUB-PANEL MOUNT SWITCHES

30-03-01	SPST Momentary (NO)	$1.40	$1.19
30-03-02	SPST Momentary (NC)	1.70	1.44
30-03-03	SPST Momentary†	1.70	1.44
30-03-04	SPST Momentary‡	2.60	2.21
46-03-05	SPDT Momentary	2.10	1.78
46-03-07	SPDT Alternate Action	3.70	3.14
46-03-08	DPDT Momentary	3.30	2.80
46-03-09	DPDT Alternate Action	4.45	3.78

*Part No. shows Series, Mounting Style and Circuitry for price purposes only. Complete Part No. must contain button cap information. Prices shown include switch and button cap. †Over-travel (NO). ‡Positive feel (NO).

HOW TO ORDER



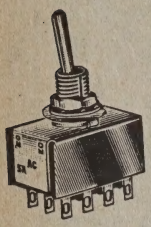
A Series: 30, 1 amp rating; 46, ¼ amp rating.
B Switch style: 01, square button, bezel front panel mount; 05, round button bezel front panel mount; 03, sub-panel mount.
C Circuitry. (See description in price table.)
D Button cap type: 500, ½″ square cap (must be used with -01 switch style); 502, ⅜″ round cap (must be used with -05 switch style).
E Top color. F Bottom color.

Examples: **30-01-01-500-0101,** Series 30, ½″ square button, front bezel mount, SPST-NO, momentary pushbutton switch with solid white button cap. **46-05-07-502-0703,** Series 46, ⅜″ round button front panel bezel mount, SPDT, alternate action pushbutton switch with two-color button cap, red top and black ring. **30-03-04-500-0707,** Series 30, sub-panel mount, SPST-NO, positive feel momentary pushbutton switch with square, solid black button cap.

JMT-223
COLOR CAP

SERIES JMT SUBMINIATURE TOGGLE SWITCHES

Combine drastic reduction in size and weight with trouble-free construction. Ideal for manually-controlled, low current, solid state devices and miniaturized circuitry. Used in computers, aircraft, electronic instruments, geophysical and portable equipment of all kinds. Mount in single hole with ¼"-40NS-2A bushing .352" lg. with keyway. Solder terminals firmly staked to withstand repeated soldering; electrical continuity of terminal is to opposite throw of lever. Distinctive green phenolic body. Bat handle .400" lg. **Series JMT-100:** SPDT action. Body .500" x .260" x .505" deep behind panel (including terminals). Wt., 0.19 oz. **Series JMT-200:** DPDT action. Body .500" x .450" x .505" deep behind panel (incl. terminals). Wt., 0.23 oz. **Series JMT-300:** 3PDT action. Body .652" x .500" x .571" deep behind panel (including terminals). Wt., 0.28 oz. **Series JMT-400:** 4PDT action. Body .843" x .500" x .571" deep behind panel (including terminals). Wt., 0.32 oz.



JMT-423

SPECIFICATIONS

Electrical Characteristics: Rated 5 amps nom. resistive, 125 VAC and 24 VDC. Initial contact resistance, 5 milliohms max., at 3 VDC, 100 mA. Insulation resistance, 10,000 megohms min. Dielectric strength, 1 kV rms at sea level. Life, 100,000 make-and-break, min. for suffix -23 models; all others 60,000, under load. **Physical Characteristics:** Coin silver switching contacts and rockers. Bright, chrome-plated brass bat handle. Phenolic case and cradle. Bushing, locking ring (1 supplied) and hex nuts (2 supplied) are nickel-plated brass. Clamp and internal-tooth lockwasher chromate treated or stainless steel. **Circuitry:** As indicated in table, below. However, they may also be used as ST (single throw) by wiring only to applicable terminals. Example: JMT-123 connects as an On-Off switch by using center terminals and terminals on one end only.

Positions	SPDT Series JMT-100 J-B-T No.*	Net Each, Lots of 1	2-9	10-29	30-99	DPDT Series JMT-200 J-B-T No.*	Net Each, Lots of 1	2-9	10-29	30-99
On-Off-On	JMT-121	$2.45	$1.95	$1.43	$1.30	JMT-221	$3.05	$2.55	$1.87	$1.70
On-None-On	JMT-123	2.15	1.65	1.21	1.10	JMT-223	2.65	2.15	1.58	1.43
On-None-On†	JMT-126	2.45	1.95	1.43	1.30	JMT-226	3.05	2.55	1.87	1.70
On†-Off-On†	JMT-127	2.60	2.10	1.54	1.40	JMT-227	3.20	2.70	1.98	1.80
On-Off-On†	JMT-131	2.60	2.10	1.54	1.40	JMT-231	3.20	2.70	1.98	1.80
None-On-On†	JMT-134	2.45	1.95	1.43	1.30	JMT-232	3.35	2.85	2.09	1.90
On-On-On	.....	.....	.....	.....	.....	JMT-233	3.65	3.15	2.31	2.10
On-On-On†	.....	.....	.....	.....	.....	JMT-234	3.05	2.55	1.87	1.70
On†-On-On†	.....	.....	.....	.....	.....	JMT-235	3.60	3.10	2.26	2.05

Positions	3PDT Series JMT-300					4PDT Series JMT-400				
On-Off-On	JMT-321	$4.75	$4.25	$3.12	$2.84	JMT-421	$5.95	$5.45	$4.00	$3.64
On-None-On	JMT-323	4.35	3.85	2.82	2.57	JMT-423	5.35	4.85	3.56	3.24
On†-Off-On†	JMT-327	4.90	4.40	3.23	2.93	JMT-427	6.10	5.60	4.10	3.74
On-Off-On†	JMT-331	4.90	4.40	3.23	2.93	JMT-431	6.10	5.60	4.10	3.74
None-On-On†	JMT-334	5.00	4.50	3.30	3.00	JMT-434	6.40	5.90	4.32	3.93
On-On-On	.....	.....	.....	.....	.....	JMT-432	6.50	6.00	4.40	4.00
On-On-On†	.....	.....	.....	.....	.....	JMT-433	6.75	6.25	4.57	4.15
On†-On-On†	.....	.....	.....	.....	.....	JMT-435	6.90	6.40	4.70	4.28

*See color cap ordering information table. †Momentary position.

*COLOR CAPS

To order, add suffix (as indicated below) to switch number desired (e.g., JMT-123-**W-CAP-10A**). Add **2c** each to prices shown; **$10.00** per 1000 in bulk.

Color	Suffix W-CAP-	Color	Suffix W-CAP-
White	10A	Orange	10F
Blue	10B	Yellow	10G
Red	10C	Green	10H
Black	10D	Violet	10I
Brown	10E	Gray	10J

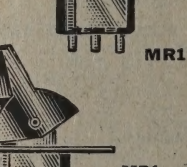
VARIATIONS OF SERIES JMT SUBMINIATURE TOGGLE SWITCHES*

Series LFH—with Flat Handle: Identical to JMT series above, except for flat handle (paddle) lever, permanently pinned for proper alignment in operating plane. Handle is satin chrome finish with matching dress nut construction and ratings same as JMT series. Available in all circuit configurations of JMT series, including 3PDT and 4PDT, and with MPC type printed circuit terminals.

Positions	SPDT Series LFH-100 Flat Handle J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99	DPDT Series LFH-200 Flat Handle J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99
On-Off-On	LFH-121	$3.35	$2.85	$2.29	$2.00	LFH-221	$4.00	$3.50	$2.75	$2.42
On-None-On	LFH-123	3.05	2.55	2.06	1.79	LFH-223	3.55	3.05	2.45	2.13
On†-Off-On†	LFH-127	3.50	3.00	2.40	2.10	LFH-227	4.15	3.65	2.87	2.52

LFH

Series MR1—Rocker Switches: Same nominal rating as JMT Series, and dimensionally same below mounting bracket. Built-in extra strength in support column prevents wobbling and provides always-perfect alignment. Green body molded of glass-filled diallyl phthalate. Rockers are black molded nylon; red and white rockers also available. These switches also available with printed circuit, fast-on, and Wire-Wrap™ terminals. Available also in 3PDT and 4PDT configurations.



MR1

Series MP1—Paddle Lever Switches: Identical to subminiature Series MR1 rocker switches, but paddle lever type.

	SPDT Series MR1 and Series MP1‡					DPDT Series MR1 and Series MP1†				
On-Off-On	MR1-121	$2.90	$2.40	$1.87	$1.73	MR1-221	$3.55	$3.05	$2.33	$2.15
On-None-On	MR1-123	2.60	2.10	1.64	1.52	MR1-223	3.15	2.65	2.03	1.87
On-None-On†	MR1-126	2.90	2.40	1.87	1.73	MR1-226	3.55	3.05	2.33	2.15
On†-Off-On†	MR1-127	3.10	2.60	1.98	1.84	MR1-227	3.70	3.20	2.45	2.26
On-Off-On†	MR1-131	3.10	2.60	1.98	1.84	MR1-231	3.70	3.20	2.45	2.26
On-On-On	.....	.....	.....	.....	.....	MR1-232	3.90	3.40	2.56	2.36
On-On-On†	.....	.....	.....	.....	.....	MR1-233	4.20	3.70	2.79	2.57
On†-On-On†	.....	.....	.....	.....	.....	MR1-235	4.15	3.65	2.74	2 52

MP1

Series MPC—Printed Circuit Switches: Same as JMT series, but with terminals for direct insertion into printed circuit boards. Terminals are gold plated for easy soldering. Construction and ratings identical to JMT, except for terminals. Also available with special modifications (flat handle, locking lever, large 15/32" bushing, etc.).

	SPDT Series MPC-100 Printed Circuit					DPDT Series MPC-200 Printed Circuit				
On-Off-On	MPC-121	$2.70	$2.20	$1.61	$1.45	MPC-221	$3.28	$2.78	$2.07	$1.87
On-None-On	MPC-123	2.35	1.85	1.38	1.24	MPC-223	2.86	2.36	1.76	1.59
On-None-On†	MPC-126	2.70	2.20	1.61	1.45	MPC-226	3.28	2.78	2.07	1.87
On†-Off-On†	MPC-127	2.85	2.35	1.72	1.55	MPC-227	3.44	2.94	2.18	1.97

MPC

Series PB—Pushbutton Switches: SPDT pushbutton-actuated subminiature switches with 100,000 cycles average life under load—5 amps at 125 VAC. Coin silver contacts and rocker; silver plated center terminal. Bushing and plunger are nickel-plated brass. High-strength plastic body with anodized natural aluminum knob (anodized colored knobs available). Mount in ¼" D-hole.

	Series PB-100 Maintained Action					Series PB-100 Momentary Action				
SPDT	PB-123	$2.55	$2.05	$1.54	$1.37	PB-126	$2.55	$2.05	$1.54	$1.37

PB

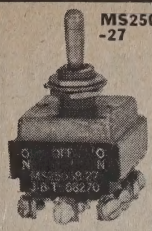
*Prices given are for typical models within each series. Each series (except PB) is available in every circuit configuration of the JMT series, above, and with other variations. **Write for prices on all unlisted types.** †Momentary position (spring return). ‡Listed are J-B-T Nos. for rocker switch models. To order paddle lever models, change second character in J-B-T No. to **P**. Example: M**P**1-121; same price.

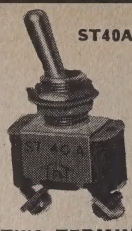
MIL and JAN Toggle Switches

HEAVY DUTY TOGGLE SWITCHES SINGLE, DOUBLE AND 4-POLE

For use in DC circuits; or, AC circuits in frequencies up to 1600 Hz. Rugged, positive action. Built for extra long life to meet government, industrial and commercial requirements for high reliability. Metal top eliminates spring holes; encloses switch behind panel. **Features:** Aircraft lubricant for operation in temperatures −85° F to +185° F. Withstand high humidity. Meets 100-hour salt-spray test QQ-M-151a. No momentary make or break or mechanical damage under stringent shake tests and 75 G drop test. Tested to make and break at 50% overload for brief periods due to size, solid coin silver contacts and rocker arms. Contact resistance, under 0.005 ohm. Dielectric exceeds 1,000 V rms, 60 Hz at sea level. Screw terminals and solder lugs withstand 30 lb. pull test. **Series MS35058, MS35059:** With lever seal for sand, dust and 15 ft. water submersion tests. Screw terminals; solderable finish. Meets MIL-S-3950A specifications. **Series ST40, 42, 50, 52:** Heavy-duty type; solder and screw terminals. Meet JAN-S-23 specifications. **Series MS25068:** Extra heavy duty terminals, 4-pole construction for single hole mounting. Silicone rubber bushing seals. Surpass rigorous electrical endurance requirements. Molded, hi-arc resistant bodies. MIL-S-3950A for models with suffix -21 or higher.

Nominal Ratings: 20 amps at 125 VAC; 10 amps at 250 VAC. **Switch Movement:** Opposite to that of the lever. **Finish:** Dull finish nickel-plating to government specifications. **Hardware:** Two hex nuts, one internal-tooth lockwasher and locking ring (not supplied in bulk shipments).





4PST EIGHT TERMINALS

MIL-S-3950A Circuit	Screw Terminal No.	Net Each, Lots of 1	2-24	25-49	50-99	100-249
On-Off-X	MS25068-24	$6.75	$6.25	$5.63	$4.75	$3.75
On-Off*-X	MS25068-25	8.75	8.25	7.43	6.27	4.95
X-Off-On*	MS25068-28	6.75	6.25	5.63	4.75	3.75

4PDT TWELVE TERMINALS

On-Off-On	MS25068-21	$7.50	$7.00	$6.30	$5.32	$4.20
On-X-On	MS25068-23	7.50	7.00	6.30	5.32	4.20
On-X-On*	MS25068-26	9.25	8.75	7.88	6.65	5.25
On*-Off-On*	MS25068-27	9.25	8.75	7.88	6.65	5.25
On-Off-On*	MS25068-31	9.25	8.75	7.88	6.65	5.25

SPST TWO TERMINALS

MIL-S-3950C Circuit	Screw Term. No.	1	2-24	25-49	50-99	100-249
On-X-Off	MS35058-22	$2.90	$2.40	$2.04	$1.61	$1.25
On-Off-X	MS35058-24	2.90	2.40	2.04	1.61	1.25
On-Off*-X	MS35058-25	3.80	3.30	2.81	2.21	1.72
X-Off-On*	MS35058-28	3.20	2.70	2.30	1.81	1.40
On-X-Off*	MS35058-29	3.10	2.60	2.21	1.74	1.35
Off-X-On*	MS35058-30	3.10	2.60	2.21	1.74	1.35

SPDT THREE TERMINALS

On-Off-On	MS35058-21	$3.25	$2.75	$2.34	$1.84	$1.43
On-X-On	MS35058-23	3.25	2.75	2.34	1.84	1.43
On-X-On*	MS35058-26	3.70	3.20	2.72	2.14	1.66
On*-Off-On*	MS35058-27	3.70	3.20	2.72	2.14	1.66
On-Off-On*	MS35058-31	3.60	3.10	2.64	2.08	1.61

DPST FOUR TERMINALS

On-X-Off	MS35059-22	$3.60	$3.10	$2.85	$2.17	$1.74
On-Off-X	MS35059-24	3.65	3.15	2.90	2.21	1.76
On-Off*-X	MS35059-25	4.70	4.20	3.86	2.94	2.35
X-Off-On*	MS35059-28	4.20	3.70	3.40	2.59	2.07
On-X-Off*	MS35059-29	4.50	4.00	3.68	2.80	2.24
Off-X-On*	MS35059-30	4.70	4.20	3.40	2.59	2.07

DPDT SIX TERMINALS

On-Off-On	MS35059-21	$4.00	$3.50	$3.22	$2.45	$1.96
On-X-On	MS35059-23	4.00	3.50	3.22	2.45	1.96
On-X-On*	MS35059-26	4.80	4.30	3.96	3.01	2.41
On*-Off-On*	MS35059-27	4.70	4.20	3.86	2.94	2.35
On-Off-On*	MS35059-31	4.70	4.20	3.86	2.94	2.35

JAN-S-23 Circuit and Arrangement	Screw Terminal No.	Net Each, Lots of 1	2-24	25-49	50-99	100-249	Solder Terminal No.	Net Each, Lots of 1	2-24	25-49	50-99	100-249
SPST 2-Term.												
On-X-Off	ST40A	$1.76	$1.53	$1.39	$1.20	$1.02	ST42A	$1.95	$1.37	$1.20	$1.04	$0.89
On-X-Off*	ST40B	2.45	1.87	1.63	1.40	1.17	ST42B	2.16	1.48	1.39	1.19	1.00
Off-X-On*	ST40C	2.45	1.87	1.63	1.40	1.17	ST42C	2.05	1.46	1.28	1.12	.94
SPDT 3-Term.												
On-X-On	ST40D	2.46	1.88	1.65	1.43	1.21	ST42D	2.14	1.56	1.36	1.18	1.00
On-Off-On	ST40E	2.46	1.88	1.65	1.43	1.21	ST42E	2.14	1.56	1.36	1.18	1.00
On-X-On*	ST40F	2.77	2.18	1.91	1.63	1.37	ST42F	2.30	1.72	1.52	1.30	1.12
On*-Off-On*	ST40G	2.64	2.06	1.81	1.56	1.33	ST42G	2.30	1.72	1.52	1.30	1.12
On-Off-On*	ST40H	2.77	2.18	1.91	1.63	1.37	ST42H	2.30	1.72	1.52	1.30	1.12
DPST 4-Term.												
On-X-Off	ST50K	2.95	2.39	1.76	1.49	1.20	ST52K	2.76	2.16	1.60	1.35	1.07
On-X-Off*	ST50L	3.48	2.88	2.15	1.78	1.42	ST52L	3.11	2.61	1.90	1.58	1.25
Off-X-On*	ST50M	3.48	2.88	2.15	1.78	1.42	ST52M	3.11	2.61	1.90	1.58	1.25
DPDT 6-Term.												
On-X-On	ST50N	3.35	2.76	2.07	1.72	1.38	ST52N	2.99	2.40	1.80	1.51	1.20
On-Off-On	ST50P	3.35	2.76	2.07	1.72	1.38	ST52P	2.99	2.40	1.80	1.51	1.20
On-X-On*	ST50R	3.72	3.13	2.35	1.97	1.57	ST52R	3.38	2.70	2.08	1.75	1.40
On*-Off-On*	ST50S	3.84	3.24	2.48	2.08	1.66	ST52S	3.52	2.92	2.18	1.82	1.47
On-Off-On*	ST50T	3.72	3.13	2.35	1.97	1.57	ST52T	3.38	2.79	2.08	1.75	1.40

MEDIUM DUTY TOGGLE SWITCHES (INCLUDING MS25098 AND MS25100)

Single-hole, flush-mounting switches for DC or AC circuits up to 1600 Hz. Molded bodies fully enclosed. Rugged, positive action built for extra long life. **Features:** Aircraft lubricant to withstand temperatures −85° F to +185° F. Withstand tropical humidity. Meet 100-hour salt-spray test QQ-M-151a. No momentary make or break or mechanical damage during shake tests or 75 G drop test. Silver-plated stationary contacts; phosphor-bronze movable contacts; meet 50% overload for brief periods. Dielectric exceeds 1,000 V rms, 60 Hz at sea level. Contact resistance well under 0.01 ohm military requirement. Terminals withstand 5-lb. pull. **Nominal Ratings:** 6 amps at 125 VAC; 3 amps at 250 VAC. **Switch Movement:** Same direction as that of the lever. **Finish:** Dull nickel-plate. **Hardware:** Two hex nuts, one internal tooth lockwasher and locking ring (not supplied in bulk shipments). **Series MS25098 and MS25100:** Unique internal design results in surpassing MIL-S-3950A endurance tests. Sand and dust bushing seal; case to terminal seal. Bushing, 15/32" lg. **Series ST12 thru ST27:** Meet JAN-S-23 specs. Double-grip, self-wiping contacts; threaded bushings, 15/32" or ¼" lg.; rear or side solder terminals.

SPST TWO TERMINALS

MIL-S-3950A Circuit	No.	1	2-24	25-49	50-99	100-249
On-X-Off	MS25098-22	$2.50	$2.00	$1.60	$1.49	$1.38
On-X-Off*	MS25098-29	3.10	2.60	2.09	1.94	1.75
Off-X-On*	MS25098-30	3.10	2.60	2.09	1.94	1.75

SPDT THREE TERMINALS

On-X-On	MS25098-23	$2.80	$2.30	$1.83	$1.71	$1.55

DPST FOUR TERMINALS

On-X-Off	MS25100-22	$3.40	$2.90	$2.30	$2.15	$1.95
On-X-Off*	MS25100-29	3.85	3.35	2.67	2.51	2.29
Off-X-On*	MS25100-30	3.85	3.35	2.67	2.51	2.29

DPDT SIX-TERMINALS

On-X-On	MS25100-23	$2.80	$2.30	$1.83	$1.71	$1.55

SPST TWO TERMINALS

Circuit and Arrangement	JAN-S-23 No.	Net Each, Lots of 1	2-24	25-49	50-99	100-249
On-X-Off	ST12A	$1.92	$1.42	$1.04	$0.94	$0.89
On-X-Off*	ST12B	2.21	1.71	1.25	1.14	1.08
Off-X-On*	ST12C	2.33	1.83	1.35	1.23	1.14
On-X-Off	ST13A†	1.96	1.46	1.08	.98	.92
On-X-Off	ST16A‡	2.31	1.81	1.33	1.20	1.13
On-X-Off*	ST16B‡	2.38	1.88	1.38	1.25	1.18
Off-X-On*	ST16C‡	2.38	1.88	1.38	1.25	1.18
On-X-Off	ST17A†‡	2.01	1.51	1.11	1.01	.94

SPDT THREE TERMINALS

On-X-On	ST12D	$2.14	$1.64	$1.20	$1.10	$1.02
On-X-On	ST13D†	2.19	1.69	1.24	1.13	1.07
On-X-On	ST16D‡	2.19	1.69	1.24	1.13	1.07
On-X-On	ST17D†‡	2.36	1.86	1.36	1.24	1.16

DPST FOUR TERMINALS

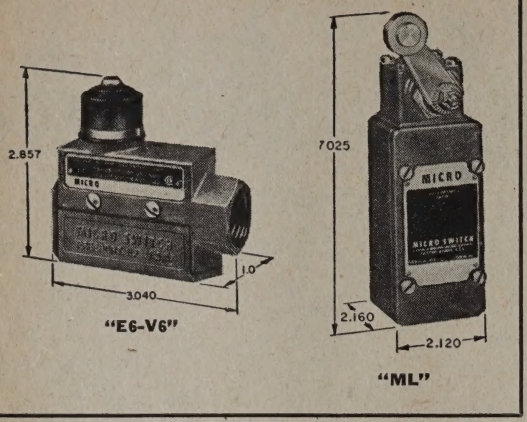
On-X-Off	ST22K	$2.44	$1.94	$1.43	$1.30	$1.21
On-X-Off*	ST22L	2.75	2.25	1.64	1.49	1.41
Off-X-On*	ST22M	2.75	2.25	1.64	1.49	1.41
On-X-Off	ST23K†	2.49	1.99	1.46	1.34	1.25
On-X-Off	ST26K‡	2.61	2.11	1.55	1.42	1.33
On-X-Off*	ST26L‡	2.79	2.29	1.67	1.54	1.44
Off-X-On*	ST26M‡	2.91	2.41	1.75	1.61	1.51
On-X-Off	ST27K†‡	2.66	2.16	1.58	1.44	1.36

DPDT SIX TERMINALS

On-X-On	ST22N	$2.62	$2.12	$1.56	$1.42	$1.33
On-X-On	ST23N†	2.67	2.17	1.58	1.45	1.36
On-X-On	ST26N‡	2.62	2.12	1.56	1.42	1.34
On-X-On	ST27N†‡	2.79	2.29	1.67	1.54	1.44

*Momentary position. †Bushing ¼" long. ‡Side-connected terminals.

MICRO SWITCH Precision Switches



TYPES "E6" AND "V6" ENCLOSED SWITCHES

Extra convenient switches are interchangeable with older "E" and "V" types, but offer more flexible, utilitarian design. Easier access to terminals permits quick connection. Molded elastomer insulator-seal is bonded to inside of bottom housing. Available with or without actuator seal boots. Rugged cast aluminum housing. Temperature range, −25° to +160° F. **"E6"** indicates side mounting types; **"V6"** indicates bottom flange mounting.

SPDT MOMENTARY CONTACT TYPES

UL rated 15 amps at 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC. **Overtravel:** .219″ minimum except -2RQ8 and -2RQ81, .140″; -2RQ62, .838″.

Micro Switch Number BZE6- or BZV6-	Actuator	Oper. Force, Oz.	Max. Pre-travel	List Price*
2RN	Plunger*	9–24	.078″	$ 9.15
2RN7	Plunger*†	9–24	.078″	9.45
2RQ	Plunger	9–13	.015″	7.05
2RN80	Roller plunger*‡	9–24	.078″	13.55
2RQ8	Roller plunger§	9–13	.015″	11.95
2RQ81	Roller plunger#	9–13	.015″	11.95
2RN2	Roller arm*	10–20	.188″	13.55
2RQ2	Roller arm	10–18	.188″	11.95
2RN18*	Flexible rod	7 max.	15°	14.20
2RN28	1-way roller arm*	8–20	.234″	15.65
2RN4	1.5″ dia. button*	10–20	.188″	14.00
2RQ62	Low-force rod	2–5	.718″	11.95

DPDT MOMENTARY CONTACT TYPES

UL rated 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. **Overtravel:** -2RN, .125″ min.; -2RN2, .219″.

Micro Switch Number	Actuator	Oper. Force, Oz.	Max. Pre-travel	List Price*
DTE6-2RN	Plunger*	26–59	.110″	$20.25
DTV6-2RN	Plunger*	26–59	.110″	20.25
DTE6-2RN2	Roller arm*	10–30	.266″	23.80
DTV6-2RN2	Roller arm*	10–30	.266″	23.80

SPDT MAINTAINED CONTACT TYPES

Rated 15 amps at 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ¼ hp, 125 VAC; ½ hp, 250 VAC. **Overtravel:** .187″ minimum except -RN2X1 and -RQ2X2, .219″ minimum; -RQ8X2, .140″ minimum.

BZE6-RNX1	Plunger*	6–20	.078″	$16.65
BZV6-RNX1	Plunger*	6–20	.078″	16.70
BZE6-RQX2	Plunger	6–9.5	.012″	13.00
BZV6-RQX2	Plunger	6–9.5	.012″	13.00
BZE6-RN2X1	Roller arm*	16 max.	.188″	21.80
BZV6-RN2X1	Roller arm*	16 max.	.188″	21.80
BZE6-RQ2X2	Roller arm	10–18	.188″	16.60
BZV6-RQ2X2	Roller arm	10–18	.188″	16.45
BZE6-RQ8X2	Roller plunger‡	6–9.5	.012″	18.90

*Sealed against moisture and dirt with elastomer boot around actuator. †Side mounting only (prefix BZE6-) with #8 screws. ‡Roller parallel to long axis of switch (side mounting type only, prefix BZE6-). §Roller parallel to long axis of switch. #Cross roller plunger, perpendicular to long axis.

SPECIAL ACTUATORS FOR "ML" AND "ML-E1"

Nylon and steel roller-lever actuators (use nylon roller type only for ML-E1 explosion-proof switches).

	Micro Switch No.			Micro Switch No.		
Lgth.	Nylon Roller	Steel Roller	Lgth.	Nylon Roller	Steel Roller	List Price*
4.5″	6PA109	6PA117	2.5″	6PA105	6PA113	$11.65
4″	6PA108	6PA116	2″	6PA104	6PA112	11.65
3.5″	6PA107	6PA115	1.78″	6PA103	6PA111	11.65
3″	6PA106	6PA114	1.78″*	6PA110	6PA118	11.65

*Reversible.

Micro Switch No. 6PA19 Aluminum Rod Actuator—0.125″ dia. x 5¼″ l. rod can be cut and formed. List Price..... **$3.60***

"ML" HEAVY DUTY LIMIT SWITCHES

Rugged oiltight construction with precision operation; sealed against liquid splash; cast aluminum housing. Prefixes 1, 101 indicate regular types; all others have additionally sealed operating heads preventing entry of dirt, dust, abrasives or liquids. Adjustable rotary or plunger operation; also available without actuator. Momentary contacts. SPDT and 2-circuit types not interchangeable. UL and CSA listed.

SPDT TYPES WITH ACTUATOR

Rated: 20 amps, 120, 240, 480 or 600 VAC; ½ amp, 115 VDC; ¼ amp, 230 VDC; ¾ hp, 120 VAC; 1½ hp, 240 VAC. **Pilot Duty Rating:** 600 volts AC maximum.

Micro Switch No.	Actuator	Oper. Force Max.	Pre-travel	Over-travel	List Price*
1ML1	Roller lever	2 lbs.	12°	60°	$36.90
51ML1	Roller lever	3 lbs.	12°	60°	43.50
2ML1	Plunger	6 lbs.	.025″	.500″	28.90
5ML1	Roller plunger	6 lbs.	.025″	.500″	37.40
1ML10	Aluminum rod	2.5 oz.	12°	60°	38.80
51ML10	Aluminum rod	5 oz.	12°	60°	43.20
51ML17	Roller lever*	3 lbs.	12°	60°	45.40

*Magnetic blow-out type rated 10 amps, 125 VAC or 125 VDC, resistive; ¼ hp, 125 VDC non-polarized; ½ hp, 125 VDC polarized. Not UL and CSA listed.

TWO CIRCUIT, DOUBLE BREAK TYPES WITH ACTUATOR

Rated: 10 amps, 120, 240, 480 or 600 VAC; 0.8 amp, 115 VDC; 0.4 amp, 230 VDC; ½ hp, 120 VAC; 1 hp, 240 VAC. **Pilot Rated:** 600 volts AC maximum.

101ML1	Roller lever	2 lbs.	15°	60°	$40.60
151ML1	Roller lever	3 lbs.	15°	60°	47.20
102ML1	Plunger	6 lbs.	.040″	.500″	32.80
105ML1	Roller plunger	6 lbs.	.040″	.500″	40.40
101ML10	Aluminum rod	4 oz.	15°	60°	41.10
151ML10	Aluminum rod	5 oz.	15°	60°	47.50

DPDT TYPES WITH ACTUATOR

Rated: 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. 51ML7 has sealed operating head.

1ML7	Roller lever	2 lbs.	18°	55°	$46.80
51ML7	Roller lever	3 lbs.	18°	55°	53.60

LIMIT SWITCHES WITHOUT ACTUATOR

Rotary motion. Electrical ratings same as equivalent actuator types, above. Roller lever actuators listed below.

Micro Switch Number	Type	Oper. Torque	Pre-travel	Over-travel	List Price*
101ML2	2-circuit	3.56 in.-lb.	15°	60°	$36.10
151ML2	2-circuit	5.34 in.-lb.	15°	60°	42.70
1ML2	SPDT	3.56 in.-lb.	12°	60°	32.40
1ML22	SPDT	13 in.-oz.†	12°	60°‡	34.30
51ML2	SPDT	5.34 in.-lb.	12°	60°	39.00
51ML22	SPDT	25 in.-oz.†	12°	60°‡	42.60
1ML72	DPDT	3.56 in.-lb.	18°	.....	42.30
51ML72	DPDT	5.34 in.-lb.	18°	55°	49.10
106ML21	2-circ.*	3 in.-lb.	60°	.....	37.50

*Maintained contacts; others momentary. †Maximum. ‡Minimum.

TYPE "ML-E1" EXPLOSION-PROOF LIMIT SWITCHES

SPDT contacts. Rugged cast aluminum enclosures. Available with or without actuator.

20-AMP TYPES

UL and CSA listed: 20 amps, 120, 240 or 480 VAC; ½ amp, 115 VDC; ¼ amp, 230 VDC; ½ hp, 120 VAC; 1¼ hp, 240 VAC. **Pilot Duty Rating:** 600 VAC max.

Micro Switch No.	Actuator	Oper. Force	Pre-travel	Over-travel	List Price*
1ML1-E1	Roller lever	2 lbs.	12°	60°	$60.20
51ML1-E1	Roller lever*	3 lbs.	12°	60°	64.30
2ML1-E1	Plunger*	6 lbs.	.025″	.500″	53.00
5ML1-E1	Roller plunger*	6 lbs.	.025″	.500″	56.40
1ML10-E1	Low-force rod	2.5 oz.	12°	60°	54.40
51ML10-E1	Low-force rod*	5 oz.	12°	60°	64.00
1ML2-E1	None	3.56†	12°	60°	55.70
51ML2-E1	None*	3.56†	12°	60°	59.80

10-AMP TYPES

UL and CSA listed: 10 amps, 120, 240 or 480 VAC; 0.8 amp, 115 VDC; 0.4 amp, 230 VDC; ½ hp, 120 VAC; 1 hp, 240 VAC. **Pilot Duty Rating:** 600 VAC max.

101ML1-E1	Roller lever	2 lbs.	15°	60°	$64.00
151ML1-E1	Roller lever*	3 lbs.	15°	60°	67.90
102ML1-E1	Plunger*	6 lbs.	.040″	.500″	57.00
105ML1-E1	Roller plunger*	6 lbs.	.040″	.500″	60.10
101ML10-E1	Low-force rod	4 oz.	15°	60°	65.70
151ML10-E1	Low-force rod*	5 oz.	15°	60°	67.60
101ML2-E1	None	3.56†	15°	60°	59.50
151ML2-E1	None*	5.34†	15°	60°	63.40
106ML21-E1	None*	3†	60°	.....	59.50

*Sealed operating head. †Inch-lbs. of operating torque (see listing at left for special actuators).

★Switches of same product class only may be grouped for quantity discount.

WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Precision Switches

TYPE "EX" EXPLOSION-PROOF SWITCHES

Designed for limits, safeties and interlocks in explosive atmosphere. Compact NEMA housings with ample wiring space. For Class I Group C and D; Class II, Groups E, F and G atmospheres. Mount from top, bottom, back or end. Captive cover screws; replaceable switching unit. Roller arm actuators adjustable through 360°. Clockwise actuation, except as indicated. Overtravel plunger actuators (-Q, -Q800 and -N15) have case-hardened plunger, withstand steady load of 100 lbs. without injury. Cross-roller arm (EX-CR) has roller perpendicular to long axis. Manual actuator (EX-AR50) type has large paddle for fast, easy operation. **Contacts:** SPDT except EXD series, DPDT. **EX Series UL Rated:** 15 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC. **EXA Series UL Rated:** 20 amps, 125, 250 or 480 VAC; 10 amps, 125 VAC "L"; ½ amp, 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. **EXD Series UL Rated:** 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. **EXH Series Rated:** 10 amps induct. and 25 amps resis., 28 VDC; 1 amp, 125 VAC; U/L, 1 amp, 125 VAC. **Type EX-N15 Rated:** UL, 10 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; includes elastomer plunger boot. All types include mounting bracket, except as indicated. EXH series has hermetically-sealed switching unit.

Micro Switch Number	Actuator	Oper. Force	Maximum Pre-travel	Maximum Over-travel	List Price*
EX-AR	Roller arm	8–20 oz.	.219″	90°	**$29.10**
EX-AR800	Roller arm*	8–20 oz.	.219″	90°	**31.30**
EX-AR30	Roller arm†	2.5 lb.	.065″	25°	**29.10**
EX-AR16	Roller arm‡	2 oz.	.....	.....	**31.05**
EX-AR20	None	§	.219″	90°	**27.05**
EX-CR	Cross-roller	8–20 oz.	.219″	90°	**29.10**
EX-AR128	1-way roller	8–20 oz.	.219″	90°	**31.95**
EX-AR1613	Rod#	2 oz.	18°	40°•	**34.20**
EX-AR50	Manual	2.5 lb.	.....	.....	**30.80**
EX-Q	Plunger	3 lb.	.078″	.188″•	**29.10**
EX-Q800	Plunger*	3 lb.	.078″	.188″•	**31.30**
EX-N15	Plunger	3 lb.	.078″	.188″•	**30.85**
EXA-AR	Roller arm	12–32 oz.	.219″	25°	**29.50**
EXA-Q	Plunger	2 lb.	.050″	.125″•	**29.50**
EXD-AR	Roller arm	8–24 oz.	.250″	25°	**35.25**
EXD-Q	Plunger*	3 lb.	.156″	.141″•	**35.25**
EXH-AR3	Roller arm*	8–24 oz.	.219″	25°	**50.00**
EXH-AR33	Roller arm*†	2.5 lb.	.065″	25°	**50.00**

*Listed for UL Class I, Group B (hydrogen) atmospheres. †Counter-clockwise actuation. ‡Clockwise or counter-clockwise; low-force; no lever return spring or mounting bracket. §31.25 in.-oz. maximum; see listing of auxiliary actuators below. #Low-force rod; no mounting bracket included. •Minimum.

AUXILIARY ACTUATORS FOR "EX" SWITCHES

For type EX-AR20 switch, listed above.

Micro Sw. No.	Type	Material	List*
6PA5-EX	Roller arm	Bronze	**$ 8.75**
6PA127-EX	Roller arm	Nylon	**8.75**
6PA130-EX	One-way roller arm	Bronze	**9.60**
6PA131-EX	Cross-roller arm	Bronze	**9.60**
6PA136-EX	Rod	Aluminum	**10.15**
6PA138-EX	Adjust. roller arm	Bronze	**10.15**
6PA142-EX	CCW 6PA130-EX	Bronze	**9.60**

TYPE "EXMN" EXPLOSION-PROOF SWITCHES

Similar to "EX" series above, but 2-circuit double-break contacts. Bracket included. **Actuator:** EXMN-AR, clockwise roller arm; EXMN-AR30, counter-clockwise roller arm; EXMN-Q, straight plunger. Listed for UL Class I, Group B (hydrogen) atmospheres, **Rated:** UL and CSA listed: 10 amp, 125, 250 or 480 VAC; 0.8 amp, 125 VDC; 0.4 amp, 250 VDC; ½ hp, 125 VAC, 1 hp, 250 VDC.

Micro Switch No.	Oper. Force	Pre-travel	Over-travel	List Price*
EXMN-AR	6–20 oz.	.250″	90° max.	*
EXMN-AR30	2.5 lb. max.	.085″	25° max.	**$32.95**
EXMN-Q	2 lb. max.	.078″	.141″ min.	**32.95**

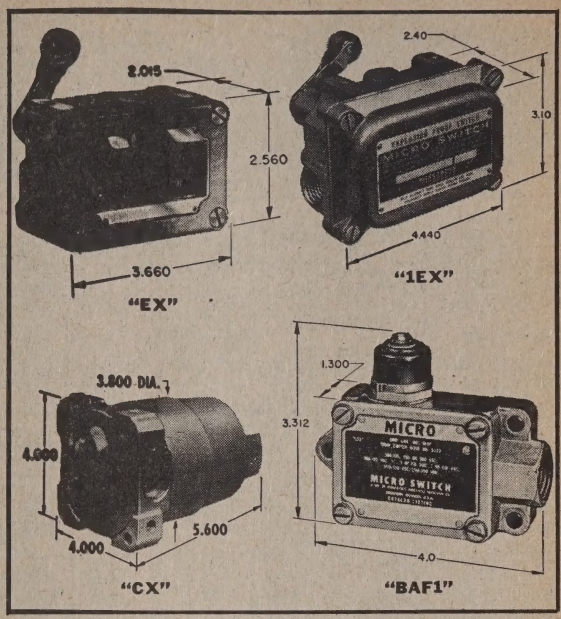
*Price on request.

TYPE "CX" EXPLOSION-PROOF SWITCHES

Will withstand pressure of internal explosion, cool exploded gases. For outdoor use in hazardous atmospheres. Rugged cast aluminum housings with two ¾″ diameter conduit openings. Consist of two switching units. **Type A:** Both switching units operate either side of center. **Type B:** One switching unit operates either side of center. Non-sparking roller arm actuators; momentary action. Mount from either of four sides, or front. **2CX Ratings:** SPDT contacts, U/L rated, 20 amps, 125, 250 or 480 VAC; 10 amps, 125 VAC "L"; ½ amp, 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. **4CX Ratings:** DPDT contacts, UL rated 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. **Actuator:** Adjustable (1″ to 3½″) or standard roller arm; rotates and locks in any position through 360°. No actuating arm types available.

Micro Switch No.	Type	Actuator	Maximum Oper. Force	Maximum Pre-travel	Min. Over-travel	List Price*
2CX6	A*	Adjust-	10 lbs.	25°	35°	**$ 90.25**
2CX3	B	able	7 lbs.	12°	45°	**90.25**
4CX3	B	roller	7 lbs.	20°	35°	**108.20**
4CX6	A	arm	10 lbs.	30°	30°	**107.60**
2CX1	B	Stan-	7 lbs.	12°	45°	**88.30**
2CX5	A	dard	10 lbs.	25°	35°	**88.30**
4CX1	B	roller	7 lbs.	20°	35°	**106.35**
4CX5	A	arm	10 lbs.	30°	30°	**106.35**

*Corrosion-resistant bearings.



"DOUBLE-DUTY" EXPLOSION-PROOF SWITCHES

Conduit opening at both ends of switch housing permits through wiring; saves on installation problems. **Actuator:** Roller arm except 4EX5, roller rod; 22EX22, side plunger. **1EX1 (SPDT) Rating:** UL, 15 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC. **2EX1** (SPDT) and **22EX22** (Two SPNC circuits) **Rating:** UL, 20 amps, 125, 250 or 480 VAC; 10 amps, 125 VAC "L"; ½ amp, 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. **4EX1** and **4EX5** (DPDT) **Rating:** UL, 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC.

Micro Switch No.	Oper. Force	Max. Pre-travel	Over-travel	Conduit 14NPT Dia.	List Price*
1EX1	8–20 oz.	.219″	90° max.	½″	**$27.25**
2EX1	12–32 oz.	.219″	25° max.	½″	**27.50**
4EX1	8–24 oz.	.250″	25° max.	¾″	**32.50**
4EX5	8–24 oz.	.250″	25° max.	¾″	**35.90**
22EX22	1.75 lb.	.140″	.125″ min.	½″	**27.80**

TYPE "F" HIGH CAPACITY, ENCLOSED SWITCHES

For applications requiring a small switch that will handle a large electrical load. Built-in overtravel mechanism insures repeatability. Basic switch sealed against moisture and dust by gasket between cover plate and housing. Actuators are sealed with elastomer boot (except roller plunger types). Aluminum housing with conduit type internally tapped ½″ hub. Mounts using three .265″ holes. Roller arm actuator (-2RN2) adjustable 360° horizontally, 225° vertically. One-way roller arm (-2RN28) adjustable 360° horizontally, 180° vertically. Flexible rod (-2RN18) operates from any direction except pull. Momentary contacts. Add Suffix **RH** for right-hand (location of actuator) or, **LH** for left-hand mounting.

SPDT 20-AMP TYPES

UL rated 20 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. Lamp load, 10 amps, 125 VAC.

Micro Switch Number*	Actuator	Max. Oper. Force	Max. Pre-travel	Min. Over-travel	List Price*
BAF1-2RN	Plunger	2½ lbs.	.094″	.219″	**$14.90**
BAF1-2RN2	Roller arm	2 lbs.	.219″	.250″	**19.00**
BAF1-2RQ9	Roller plunger‡	2½ lbs.	.094″	.156″	**19.05**
BAF1-2RQN8	Roller plunger†	8 lbs.	.125″	.187″	**25.50**
BAF1-2RN28	1-way roller arm	2 lbs.	.219″	.250″	**21.20**
BAF1-2RN18	Flexible rod	.....	15°	.....	**21.10**
BAF1-2RN4	1½″ button	2 lbs.	.....	.....	**20.35**
BAF1-3RNX1	Reset plunger§	1.75 lbs.	.094″	.219″	**21.05**

DPDT 10-AMP TYPES

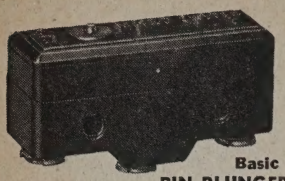
UL rated 10 amps at 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC.

DTF2-2RN	Plunger	2½ lbs.	.141″	.156″	**$23.35**
DTF2-2RN2	Roller arm	2½ lbs.	.312″	.219″	**26.90**

*Add suffix RH or LH, as indicated above. †O-ring actuator seal. ‡Plunger adjustable 360° horizontally. §Maintained contact switch with elastomer boots on both plungers (right-hand actuator position only).

★WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Precision Switches



Basic Switch

TYPE "BZ" PRECISION 15-AMP SWITCHES

Phenolic enclosed, general-purpose switches combine long life with accurate repeatability. SPDT contacts may be wired either normally-open or normally-closed. Momentary contacts. **Temperature Range:** −65° F to +180° F except as indicated. **UL and CSA Listed:** 15 amps at 125, 250 or 480 VAC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. High temperature types (to +400° F) are rated 5 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. **Terminals:** A2 type, bottom facing 6-32NC x .218″ screw with cup washers. **Mechanical Life:** 20 million operations. **Mounting:** Two .140″ dia. holes on 1″ centers for fixed position mounting. **Size:** 1.940″ w. x .687″ d. x .950″ h., less terminals. Types also available for applications requiring gold alloy contacts.

PIN PLUNGER ACTUATOR

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BZ-2R-A2	Most applications	9–13	4	.005″	$2.50
BZ-2R24-A2	Temp. to +250° F	9–13	4	.005″	2.80
BZ-2R5551-A2	Dustproof, splash resistant seal	9–15	4	.005″	3.65
BZ-2R55-A2	Sealed construction	9–15	4	.005″	5.20
BZ-2RT04	Meet MIL-S-8805	9–13	6	.005″	3.20
BZ-2R05-A2	Varying humidity	9–13	4	.005″	2.95
BZ-2R244-A2	Temp. to +400° F	9–13	4	.005″	3.20

OVERTRAVEL PLUNGER ACTUATOR

BZ-2RD-A2	For 20° rise cams	9–13	4	.060″	$3.20
BZ-2RDS5551-A2	Dustproof, splash resistant seal	13–19	4	.060″	4.30
BZ-2RD24-A2	Temp. to +250° F	9–13	4	.060″	3.35
BZ-2RS-A2	In-line motion	9–13	4	.060″	3.20
BZ-2RS5551-A2	Dustproof, splash resistant seal	9–15	4	.060″	4.30
BZ-2RS24-A2	Temp. to +250° F	9–13	4	.060″	3.35
BZ-2RST04	Meet MIL-S-8805	9–13	6	.060″	3.45
BZ-2RQ-A2	In-line, slow 30° rise cams	9–13	4	.219″	4.50
BZ-2RQ24-A2	Temp. to +250° F	9–13	4	.219″	4.60
BZ-2RQ1-A2	As BZ-2RQ-A2 w/bshg. mount	9–13	4	.219″	5.35
BZ-2RQ1T04	Meet MIL-S-8805	9–13	6	.219″	5.35
BZ-2RQ124-A2	Temp. to +250° F	9–13	4	.219″	5.55
BZ-2RQ18-A2	Roller plunger, rapid 30° rise cams, slide operation	9–13	4	.140″	9.20
BZ-2RQ1824-A2	Temp. to +250° F	9–13	4	.140″	9.30
BZ-2RQ181-A2	Roller plunger	9–13	4	.140″	9.20

STRAIGHT LEVER ACTUATOR

BZ-2RW80-A2	2.5″ lever	2.5	0.50	.219″	$3.15
BZ-2RW84-A2	Lower force	1	0.125	.219″	3.15
BZ-2RW-A2	Repeatability	1–2.5	0.50	.188″	3.15
BZ-2RW899-A2	Adjustable from .670″ to .880″	2.5	0.50	.125″	3.90
BZ-2RW863-A2	6″ lever	1	.....	.578″	3.35
BZ-2RW805551-A2	Dustproof, splash resistant seal	2.5	0.50	.219″	4.25

STRAIGHT LEVER ACTUATOR (CONT'D)

BZ-2RWT04	Meet MIL-S-8805	1–3.25	0.75	.172″	$3.40
BZ-2RW824-A2	Temp. to +250° F	2.5	0.50	.219″	3.35
BZ-2RW8244-A2	Temp. to +400° F	2.5	0.50	.219″	3.90

ROLLER LEVER ACTUATOR

BZ-2RW822-A2	1.05″ roller lever	6	1.5	.094″	$3.90
BZ-2RW82224-A2	Temp. to +250° F	6	1.5	.094″	4.15
BZ-2RW82299-A2	Adjustable from 1.172″ to 1.203″	6	1.5	.040″	4.60
BZ-2RW80147-A2	1.05″ roller lever	6	1.5	.094″	3.25
BZ-2RW82-A2	1.90″ roller lever	3.5	0.75	.156″	3.90
BZ-2RW825551-A2	Dustproof, splash resistant seal	3.5	0.75	.156″	5.15
BZ-2RW8224-A2	Temp. to +250° F	3.5	0.75	.156″	4.05
BZ-2RW8299-A2	Adjustable from 1.150″ to 1.240″	3.5	0.75	.085″	4.60
BZ-2RW80196-A2	1.90″ roller lever	3.5	0.75	.156″	3.25
BZ-2RW826-A2	One-way roller, .37″ dia. x .15″ w.	6	1.5	.094″	4.60
BZ-2RW825-A2	One-way roller, .19″ dia. x .19″ w.	8	1.5	.060″	4.60

FLEXIBLE LEAF ACTUATOR*

BZ-2RL-A2	Force & stability	5	0.50	.060″	$3.00
BZ-2RL5551-A2	Dustproof, splash resistant seal	7	0.50	.060″	4.15
BZ-2RLT04	Meet MIL-S-8805	5	0.50	.060″	3.15
BZ-2RL24-A2	Temp. to +250° F	5	0.50	.060″	3.15
BZ-2RL244-A2	Temp. to +400° F	5	0.50	.060″	†

FLEXIBLE LEAF WITH ROLLER ACTUATOR*

BZ-2RL2-A2	Force & stability	5	0.50	.060″	$3.65
BZ-2RL25551-A2	Dustproof, splash resistant seal	7	0.50	.060″	4.85
BZ-2RL2T04	Meet MIL-S-8805	3.75–5	0.50	.060″	4.05
BZ-2RL224-A2	Temp. to +250° F	5	0.50	.060″	3.85
BZ-2RL2244-A2	Temp. to +400° F	5	0.50	.060″	†

*Overtravel values given are maximum. †Price on request.

TYPE "BA" PRECISION 20-AMP SWITCHES

Same size and appearance as "BZ" switches above, but higher current capacity. **UL Electrical Rating:** 20 amps at 125, 250 or 480 VAC; 10 amps, 125 VAC "L" (AC tungsten lamp load); ¼ amp, 250 VDC; ½ amp, 125 VDC; 1 hp, 125 VAC, 2 hp, 250 VDC. **Temperature Range:** −65° F to +180° F. **Contacts:** SPDT, momentary. **Mechanical Life:** 10 million operations. **Terminals:** A2 type, bottom facing 6-32NC x .218″ screw with cup washers.

PIN PLUNGER ACTUATOR

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BA-2R24-A2	Temp. to +250° F	14–22	10	.010″	$2.80
BA-2R-A2	To 20 A load	14–22	10	.010″	2.50

OVERTRAVEL PLUNGER ACTUATOR

BA-2RB-A2	To 20 A load	14–22	10	.094″	$3.20
BA-2RQ1-A2	To 20 A load	14–22	10	.219″	5.35

STRAIGHT LEVER ACTUATOR

BA-2RV-A2	To 20 A load	2.5	0.50	.078″	$3.25

ROLLER LEVER ACTUATOR

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BA-2RV22-A2	To 20 A load	6	1.5	.030″	$4.05
BA-2RV2-A2	To 20 A load	3.5	0.50	.060″	4.05

FLEXIBLE LEAF ACTUATOR*

BA-2RL-A2	To 20 A load	9	1	.062″	$3.00

FLEXIBLE LEAF WITH ROLLER ACTUATOR*

BA-2RL2-A2	To 20 A load	9	1	.060″	$3.65

TYPE "BM" 22-AMP AND "BE" 25-AMP PRECISION SWITCHES

Identical to "BZ" switches above in size and appearance, with special contact materials for higher electrical capacity. Type "BE" is ideal for motors, solenoids and tungsten lamps. **UL Electrical Ratings:** Type "BM" switches rated 22 amps, 125, 250 or 480 VAC; ¼ hp, 125 VAC; ½ hp, 250 VAC. Type "BE" switches rated 25 amps, 125, 250 or 480 VAC; 1 hp, 125 VAC; 2 hp, 250 VAC; pilot duty, 750 VA, 125 or 250 VAC. **Temperature Range:** −65° F to +180° F. **Mechanical Life:** "BM", 20 million operations; "BE", 10 million operations. **Terminals:** A2 type, bottom facing 6-32NC x .218″ screw with cup washers.

PIN PLUNGER ACTUATOR

BM-1R-A2	Up to 22 A load	7–10	4	.005″	$2.70
BE-2R-A4†	Up to 25 A load	14–22	10	.010″	2.95

OVERTRAVEL PLUNGER ACTUATOR

BE-2RB-A4†	Up to 25 A load	14–22	10	.094″	$3.50
BM-1RD-A2	Up to 22 A load	7–10	4	.060″	3.35
BM-1RS-A2	Up to 22 A load	7–10	4	.060″	3.35
BM-1RQ1-A2	Up to 22 A load	7–10	4	.219″	5.50
BM-1RQ18-A2	Up to 22 A load	7–10	4	.140″	9.40

STRAIGHT LEVER ACTUATOR

BM-1RW84-A2	Up to 22 A load	1	0.125	.219″	$3.30
BE-2RV-A4†	Up to 25 A load	2.5	0.50	.078″	3.65

ROLLER LEVER ACTUATOR

BM-1RW822-A2	Up to 22 A load	6	1.5	.094″	$4.10
BE-2RV22-A4†	Up to 25 A load	6	1.5	.030″	4.20
BM-1RW82-A2	Up to 22 A load	3.5	0.75	.156″	4.10
BE-2RV2-A4†	Up to 25 A load	3.5	0.50	.060″	4.20

FLEXIBLE LEAF ACTUATOR*

BM-1RL-A2	Up to 22 A load	5	0.50	.060″	$3.95
BE-2RL-A4†	Up to 25 A load	9	1	.062″	3.50

FLEXIBLE LEAF WITH ROLLER ACTUATOR*

BM-1RL2-A2	Up to 22 A load	5	0.50	.060″	$3.60
BE-2RL2-A4†	Up to 25 A load	9	1	.060″	4.25

*Overtravel values given are maximum. †Terminals same as A2 except #8 screws.

WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Precision Switches

TYPE "1SX" SUBMINIATURE BASIC SWITCHES

Smallest SPDT snap-action switches from Micro Switch. Withstand temperatures from −65° F to +250° F. Silver contacts unless otherwise listed. **Release Force:** 1 oz. min. **Pretravel:** .020″ max. **Overtravel:** .004″ min. **Operating Position:** .320″ ±.015″. **Mounting:** Accept pins or screws of .087″ max. dia. on .188″ centers. T and T2 terminals for wrap around soldering of lead wires. UL and CSA listed. **Size:** .500″ w. x .200″ d. x .350″ h. overall, less terminals. Write or phone for information covering Type 1SX switches with integral lever and auxiliary actuators.

Ref.	Electrical Data
A	5 amps res., 3 amps ind., sea level, 4 amps res., 2 amps ind., 50,000 feet, 28 VDC; 5 amps res. or ind., 115 VAC, 60 Hz. UL and CSA Listed: 5 amps, 250 VAC.
B	7 amps res., 4 amps ind., sea level, 7 amps res., 2.5 amps ind., 50,000 ft., 28 VDC. UL, CSA Listed: 7 amps, 250 VAC.
C	3.5 amps res., 2 amps ind., sea level, 3.5 amps res., 1.5 amps ind., 50,000 ft., 28 VDC. UL Listed: 7 amps, 250 VAC.
D	1 amp res., ½ amp ind., 28 VDC.
E	3 amps res., 2 amps ind., 28 VDC. UL Listed: 3 amps, 250 VAC.
F	7 amps res., 4 amps ind., 2.5 amps lamp load, sea level, 4 amps res., 2.5 amps ind., 2.5 amps lamp load, 50,000 ft., 28 VDC. 7 amps res., 7 amps ind., 2 amps lamp load, 115 VAC, 60 Hz, sea level.
G	1 amp res., 0.5 amp ind., sea level and 50,000 ft., 28 VDC. 1.5 amps res., 1 amp ind., sea level, 115 VAC, 60 Hz.
H	.010 amp res. and ind., sea level, 28 VDC.

STRAIGHT PLUNGER ACTUATOR

Micro Switch Number	Recommended For—	*	Max. Oper. Force	Max. Diff. Travel	List Price
11SX21-T	Most applications	A	5 oz.	.002″	$2.40
13SX21-T	Applications requiring gold contacts	D	5 oz.	.003″	3.60
17SX21-T	Varying humidity	A	5 oz.	.003″	2.45
11SX22-T	For sealed enclosures	A	5 oz.	.003″	2.45
1SX1-T	Up to 7 A load handling	B	5 oz.	.005″	2.80
2SX1-T	Lower force	B	3 oz.	.005″	3.35
1SX12-T	Reduced diff. travel	C	5 oz.	.002″	3.80
11SX1-T	Lowest diff. travel‡	E	5 oz.	.001″	2.80
12SX3-T	Lowest diff. travel§	H	5 oz.	.001″	4.10
1SX48-T	0.010 overtravel	B	5 oz.	.005″	3.20
21SX1-T	Varying humidity	B	5 oz.	.005″	3.40
3SX1-T	Applications requiring gold contacts	D	5 oz.	.005″	4.30
21SX39-T	Meet MIL-S-8805	F	5 oz.	.005″	2.90
21SX39-T2	+180° F max. use	F	5 oz.	.005″	3.05
23SX39-T	MIL-S-8805 gold con-	G	5 oz.	.005″	4.65
23SX39-T2	tacts, +180° F max.	G	5 oz.	.005″	4.85
4SX1-T	Temp. to +400° F	†	5 oz.	.005″	3.05
12SX2-T	Best reliability§	H	5 oz.	.003″	3.80
12SX1-T	Higher current rating§	D	5 oz.	.003″	4.65

*Electrical data reference. †Electrical data on request. ‡0.75 release force. §With bifurcated gold contacts.

TYPE "SM" SUBMINIATURE SWITCHES

SM series are slightly larger than the 1SX switches. SPDT circuitry; contacts are silver except as noted. **Operating Temp. Range:** −100° F to +180° F. **Mechanical Life:** 10,000,000 cycles, 95% survival for 11SM series. **Operating Force:** 3–5 oz. except as noted. **Release Force:** 1 oz. min. except 11SM701-T, 14 grams. Power load switching capability to 11 amps, VAC. Motor load handling capacity to ¼ hp, VAC. T terminals for wrap around soldering of lead wires; others available. Series 21SM284 meet MIL-S-8805 requirements. UL and CSA listed. **Mounting:** Accept pins or screws of .087″ max. dia. Write or phone for information covering SM switches with integral leaf and aux actuators.

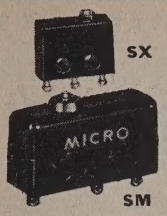
Ref.	Electrical Data
J	5 amps res., 3 amps ind., sea level; 5 amps res., 2.5 amps ind., 50,000 ft., 28 VDC. UL Listed, 5 amps, 250 VAC.
K	UL Listed: 5 amps, 125 or 250 VAC.
M	UL Listed: 11 amps and ¼ hp, 125 or 250 VAC.
N	1 amp res., 0.5 amp ind., 30 VDC. UL Listed: 1 amp, 125 VAC.
P	1 amp res., 0.5 amp ind., 30 VDC. UL Listed: 1 amp, 125 VAC.
R	5 amps res., 3 amps ind., 2.4 amps lamp load, sea level, 5 amps res., 2.5 amps ind., 2.4 amps lamp load, 50,000 ft., 28 VDC. 5 amps res., 5 amps ind., 1.5 amps lamp load, 115 VAC, 60 Hz, sea level.
S	UL Listed: 4 amps, 250 VAC.

PIN PLUNGER ACTUATORS

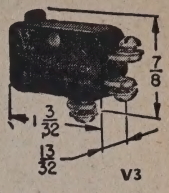
Size: .781″ w. x .250″ d. x .565″ h., overall.

Micro Switch Number	Recommended For—	*	Max. Pretravel	Min. Overtravel	List Price
11SM1-T	Most applications	J	.020″	.005″	$1.45
11SM3-T	Temp. to +250° F	J	.020″	.005″	1.45
11SM244-T	Temp. to +400° F	†	.020″	.005″	2.05
22SM1-T	Varying humidity	J	.020″	.005″	2.05
11SM401-T	Less differential travel‡	K	.020″	.005″	3.10
11SM701-T	Lower force§	S	.020″	.005″	1.45
41SM1-T	Up to 11 amps ¼ hp AC load handling	M	.030″	.005″	1.85
11SM23-T	Gold contacts	N	.020″	.005″	3.70
12SM4-T	Bifurcated gold contacts	P	.020″	.003″	4.65
411SM1	Sealed plunger#	. .	.020″	.005″	2.80

*Electrical data reference. †Electrical data on request. Max. Operating Force: ‡3.5 oz.; §56 grams; #3–7.5 oz.



311SM



PIN PLUNGER ACTUATORS (CONT'D)

Micro Switch Number	Recommended For—	*	Max. Pretravel	Min. Overtravel	List Price
51SM1-T	Center plunger position†	J	.030″	.010″	$1.90
21SM284	Meet MIL-S-8805, solder terminals	R	.030″	.005″	1.95
21SM284-T2	Meet MIL-S-8805	R	.030″	.005″	1.95

*Electrical data reference. †Max. operating force, 2–5 oz.

INTEGRAL LEVER ACTUATORS

Electrical Data: 311SM1-T thru 311SM7-T, reference J; balance, reference S. **Size:** .781″ w. x .250″ d. x .586″ h., overall.

Micro Switch No.	*	Force, Grams Max. Oper.	Force, Grams Min. Rel.	Max. Pretravel	Min. Overtravel	Actuator Lgth.	List Price
311SM1-T	A	40	7	.085″	.011″	.285″	$1.70
311SM2-T	A	30	5	.120″	.015″	.565″	1.70
311SM3-T	A	15	2	.310″	.034″	1.765″	1.70
311SM4-T	B	40	7	.085″	.011″	.251″	1.85
311SM5-T	B	30	5	.120″	.015″	.535″	1.85
311SM6-T	C	40	7	.085″	.011″	.251″	2.00
311SM7-T	C	30	5	.120″	.015″	.535″	2.00
311SM701-T	A	16	3	.085″	.011″	.285″	1.70
311SM702-T	A	12	2	.120″	.015″	.565″	1.70
311SM703-T	A	6	1	.310″	.034″	1.765″	1.70
311SM704-T	B	16	3	.085″	.011″	.251″	1.85
311SM705-T	B	12	2	.120″	.015″	.535″	1.85
311SM706-T	C	16	3	.085″	.011″	.251″	2.00

*Actuator: A, lever; B, simulated roller lever; C, roller lever.

TYPE "V3" MINIATURE BASIC SWITCHES

SPDT circuitry; silver contacts unless otherwise noted. Power load switching capability up to 15 amps, motor handling capacity of ⅓ hp. Long mechanical life of 10,000,000 cycles, 95% survival for V3-100 series. **Pretravel Time:** .047″ max. **Overtravel Time:** .040″, min., except V3-1101-D8, V3-2101-D8, V3-3001-D8, .050″ min. UL and CSA Listed. Solder terminals except as noted; other types available. **Size:** 1.094″ w. x .400″ d. x .625″ h., less terminals. Write or phone for information covering "V3" switch with straight lever; roller lever, simulated roller and aux actuators.

Ref.	Electrical Data
T	10 amps res., 6 amps ind., 6 amps motor load, 3.6 amps lamp load, 30 VDC. UL and CSA Listed: 10 amps and ⅓ hp, 125 or 250 VAC, ½ amp, 125 VDC; ¼ amp, 250 VDC; 4 amps, 125 VAC "L" lamp load.
U	10 amps res., 10 amps ind., sea level, 6 amps ind., 50,000 ft., 6 amps motor load, 30 VDC. UL and CSA Listed: 15 amps and ⅓ hp, 125 or 250 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; 5 amps, 120 VAC "L" lamp load.
V	UL and CSA Listed: 10 amps and ¼ hp, 125 or 250 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. 3 amps, 125 VAC "L" lamp load.
W	10 amps, 250 VAC or 28 VDC; ½ amp, 125 VDC; ¼ amp, 250 VDC.
X	UL Listed: 1 amp, 125 VAC.

PLUNGER ACTUATORS

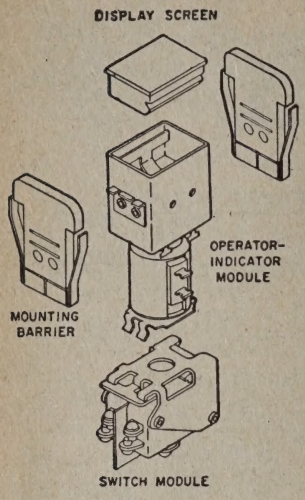
Micro Switch Number	Recommended For—	*	Max. Oper. Force	Min. Release Force	List Price
V3-101-D8	Most applications	T	8 oz.	2 oz.	$ 0.90
V3-101	General use, screw terminals	T	8 oz.	2 oz.	1.20
V3-1101-D8	Added overtravel	T	75 gms	10 gms	.90
V3-2101-D8	Lowest force, added overtravel	V	50 gms	5 gms	.95
V3-3001-D8	Lower force, up to 15 amps load handling	U	135 gms	15 gms	1.05
V3-1-D8	Up to 15 amps load handling	U	6–14 oz.	4 oz.	.90
V3-1	Up to 15 amps load hndlg., screw term.	U	6–14 oz.	4 oz.	1.20
V3-154-D8	Less diff. travel	T	6 oz.	1 oz.	1.00
V3-343-D8	Gold alloy contacts	X	8 oz.	2 oz.	1.75
V3-1001	MIL-S-8805 applica-	U	6–14 oz.	4 oz.	1.65
V3-1002†	tion requirements	U	6–14 oz.	4 oz.	1.55
V3-1003‡		U	6–14 oz.	4 oz.	1.55
V3-129§	Temp. to +302° F	T	8 oz.	2 oz.	1.40
V3-245§	Temp. to +400° F	W	10–25 oz.	6 oz.	1.85
V3-1301§	Temp. to +600° F	W	6–14 oz.	4 oz.	43.25

*Electrical data reference. †SPNC. ‡SPNO. §Actuators available on request.

WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Series 2 Switches

ILLUMINATED DISPLAY AND PUSHBUTTON SWITCH DEVICES



A new series of modular indicator and pushbutton units. No tools required for installation. The needs of modern indication and keyboard control met efficiently. Any panel is made up of the desired number and types of each unit and the units made up of the parts needed to do a specific function. Especially designed for such equipment as: Electronic data-processing systems, computers, graphic flow panels, business machines, missile and supervisory panels, scientific instruments, annunciator panels, etc. All units readily combined into rows or columns.

MOUNTINGS

Barrier Mountings are attached to two sides (long or short) of the indicators or operator-indicators and serve as mounting devices as well as separation-of-modules function. **Flange Mountings** have spring clip mounting devices ready-attached to two sides (long or short); units simply snap into mounting holes.

INDICATOR UNITS

Consist of light box with 2, 3 or 4 sockets and clips for attaching display screen. Barrier or flange mounted (long or short) unit for indication only. Mount same as operator-indicator units.

LIGHTING UNITS

Display Screens are large and may be engraved with signs or symbols. **Color Filters** are placed over lamps to obtain projected color with translucent white display screens. **Lamps** used in all units are standard miniature Nos. 328, 337, 330, 336, 334, 327.

SWITCHING UNITS

Switching units are wired simply and quickly and are snapped into position on the bottom of the operator-indicator units.

SHORT BARRIER TYPE PRODUCT CLASS 86
OPERATOR-INDICATOR

M.S. No.	No. of Sockets	Hold-in Coil DC	List Price
2C1	2	w/o	$ 4.55
2C3	4	w/o	5.40
2C13	2	6 v.	10.75
2C15	4	6 v.	11.45
2C25	2	28 v.	10.90
2C27	4	28 v.	11.55
2C37	4	48 v.	11.70
2C39	4	48 v.	12.50

INDICATOR

2F1	2	.....	$ 3.60
2F3	4	.....	4.35

LONG BARRIER TYPE PRODUCT CLASS 86
OPERATOR-INDICATOR

2C7	2	w/o	$ 4.55
2C9	4	w/o	5.40
2C19	2	6 v.	10.75
2C21	4	6 v.	11.45
2C31	2	28 v.	10.90
2C33	4	28 v.	11.55
2C43	2	48 v.	11.70
2C45	4	48 v.	12.50

INDICATOR

2F7	2	.....	$ 3.60
2F9	4	.....	4.35

SHORT FLANGE TYPE PRODUCT CLASS 86
OPERATOR-INDICATOR

2C10	2	w/o	$ 5.25
2C12	4	w/o	5.85
2C22	2	6 v.	11.35
2C24	4	6 v.	12.00
2C34	2	28 v.	11.45
2C36	4	28 v.	12.20
2C46	2	48 v.	12.40
2C48	4	48 v.	13.00

INDICATOR

2F10	2	.....	$ 4.25
2F12	4	.....	4.80

LONG FLANGE TYPE PRODUCT CLASS 86
OPERATOR-INDICATOR

M.S. No.	No. of Sockets	Hold-in Coil DC	List Price
2C4	2	w/o	$ 5.25
2C6	4	w/o	5.85
2C16	2	6 v.	11.35
2C18	4	6 v.	12.00
2C28	2	28 v.	11.45
2C30	4	28 v.	12.20
2C40	2	48 v.	12.40
2C42	4	48 v.	13.00

INDICATOR

2F4	2	.....	$ 4.25
2F6	4	.....	4.80

MOUNTING BARRIERS PRODUCT CLASS 85
SHORT

M.S. No.	Color	Panel Thick.	List Price
2B1	Gray	1/16–3/16"	$0.53
2B3	Black	1/16–3/16"	.53
2B10	White	1/16–3/16"	.53
2B11	Red	1/16–3/16"	.53
2B5	Gray	3/16–5/16"	.53
2B7	Black	3/16–5/16"	.53
2B12	White	3/16–5/16"	.53
2B13	Red	3/16–5/16"	.53

LONG

2B2	Gray	1/16–3/16"	$0.53
2B4	Black	1/16–3/16"	.53
2B14	White	1/16–3/16"	.53
2B15	Red	1/16–3/16"	.53
2B6	Gray	3/16–5/16"	.53
2B8	Black	3/16–5/16"	.53
2B16	White	3/16–5/16"	.53
2B17	Red	3/16–5/16"	.53

COLOR LAMP FILTERS PRODUCT CLASS 88

M.S. No.	Color	Type	List Price
2G5	Red	Silicone	$0.26
2G6	Yellow	Silicone	.26
2G7	Green	Silicone	.26
2G8	Blue	Silicone	.26
2G10	Amber	Silicone	.26
2G11	White	Silicone	.26

SPACING BARRIERS PRODUCT CLASS 85
LONG—1.360"

No.	Color	Spacer	List
2B9	Gray	.160 ± .005	$0.46
2B18	Black	.160 ± .005	.46
2B19	White	.160 ± .005	.46

SHORT—1.120"

2B23	Gray	.160 ± .005	$0.46
2B24	Black	.160 ± .005	.46
2B25	White	.160 ± .005	.46
2B26	Red	.160 ± .005	.46

DISPLAY SCREENS PRODUCT CLASS 84
LATERALLY SPLIT

No.	Colors	List
2A36	Red/Red	$1.70
2A37	Red/Yellow	1.70
2A38	Red/Green	1.70
2A39	Red/Blue	1.70
2A40	Red/White	1.70
2A41	Yellow/Green	1.70
2A42	Yellow/Blue	1.70
2A43	Yellow/White	1.70
2A44	Yellow/Yellow	1.70
2A45	Green/Blue	1.70
2A46	Green/White	1.70
2A47	Green/Green	1.70
2A48	Blue/White	1.70
2A49	Blue/Blue	1.70
2A50	White/White	1.70

DISPLAY SCREENS (CONT'D)
SOLID SCREEN

No.	Color	List
2A1	Red	$0.68
2A2	Yellow	.68
2A3	Green	.68
2A4	Blue	.68
2A5	White	.68

3-PIECE SCREEN

2A66	Red	$0.88
2A67	Yellow	.88
2A68	Green	.88
2A69	Blue	.88
2A70	White	.88

LONGITUDINALLY SPLIT

2A51	Red/Red	$1.70
2A52	Red/Yellow	1.70
2A53	Red/Green	1.70
2A54	Red/Blue	1.70
2A55	Red/White	1.70
2A56	Yellow/Green	1.70
2A57	Yellow/Blue	1.70
2A58	Yellow/White	1.70
2A59	Yellow/Yellow	1.70
2A60	Green/Blue	1.70
2A61	Green/White	1.70
2A62	Green/Green	1.70
2A63	Blue/White	1.70
2A64	Blue/Blue	1.70
2A65	White/White	1.70

LAMP-FILTER TOOL

Permit changing of lamps and color filters from front of mounting panel without causing breakage or shorts.
M.S. No. 15PA32—.....Price on Request

SWITCHING UNITS—PRODUCT CLASS 87

TB Type Switch—Rating: 10 amps, 125–250 v. AC; 10 amps 30 v. DC.

No.	Contact Arrangement	Terminals	List
2D64	2 Circuit, Double Break	Screw (end)	$3.30
2D86	2 Circuit, Double Break	Solder (end)	3.55

SM Type Subminiature—Rating: UL Listed for 5 amps, 125 or 250 v. AC. 30 v. DC rating: Inductive, 3 amps at sea level, 2.5 amps at 25,000 ft.; resistive, 5 amps, at sea level and 50,000 ft., max. inrush 24 amps.

No.	SPDT Circ.	Type	Contacts	List
2D1	2	Momentary	Gold	$ 6.05
2D2	2	Momentary	Silver	4.25
2D4	3	Momentary	Gold	9.30
2D5	3	Momentary	Silver	6.20
2D8	4	Momentary	Gold	12.00
2D9	4	Momentary	Silver	10.10
2D25	2	Alternate Action	Gold	7.25
2D26	2	Alternate Action	Silver	6.30
2D32	4	Alternate Action	Gold	14.00
2D33	4	Alternate Action	Silver	12.00

M.S. No. 2D62 HS Type—Hermetically sealed. Rating: 1 amp, 125 v. AC inductive or resistive load; 10 amps, 28 v. DC inductive load; 25 amps, 28 v. DC resistive load. Contact arrangement, SPDT. Screw type terminals. List Price..... $14.25

M.S. No. 2D66 A Type—High capacity. Rating: 20 amps, 125, 250, 480 v. AC; 1 hp, 125 v. AC; 2 hp, 250 v. AC. Contact arrangement, SPDT. Screw type terminals. List Price... $4.30

M.S. No. 2D88 MT Type—Magnetic blow-out. Rating: 10 amps, 125 v. AC or DC resistive load; ½ hp, 125 v. DC polarized; ¼ hp, 125 v. nonpolarized. Contact arrangement, SPDT. Screw type terminals. List Price..... $7.20

M.S. No. 2D89 DT Type—Rating: 10 amps, 125 or 250 v. AC; 0.3 amp, 125 v. DC; 0.15 amp, 250 v. DC. Contact arrangement, DPDT. Screw type terminals. List Price... $10.15

M.S. No. 2D68 Z Type—Long life. Rating: 15 amps, 125, 250, 480 v. AC; ½ amp, 125 v. DC; ¼ amp, 250 v. DC. Contact arrangement, SPDT. Screw type terminals. List Price. $4.30

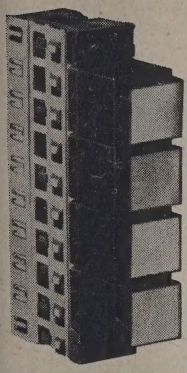
M.S. No. 2D70 V3 Type—Rating: 15 amps, 125 or 250 v. AC; 10 amps resistive or inductive load at 30 v. DC at sea level; 6 amps, inductive and 10 amps resistive load at 30 v. DC at 50,000 ft.; ⅓ hp, 125 v. AC. Contact arrangement, SPDT. Screw type terminals. List Price..... $2.35

M.S. No. 2D72 V3 Type—Same as above but DPDT contact. List Price..... $3.55

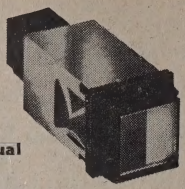
WRITE OR CALL FOR QUANTITY DISCOUNTS.

SEE PRECEDING MICRO SWITCH PAGE FOR LISTING OF SERIES 2M, ROUND FORM ILLUMINATED SWITCH COMPONENTS.

MICRO SWITCH SERIES 3 LIGHTED PUSHBUTTON SWITCHES



Strip Mount with Type 3M Hardware



Individual Mount

MOUNTING STYLES

Types 3A, 3B and 3C: For matrix or strip mounting; require Type 3M hardware (listed below). Mount in a single cutout; two or more rows can be attached to form a matrix, or one row can be strip mounted. Termination for direct wiring (or plug-in to optional connector block; suffix -1). **Types 3G, 3H and 3J:** Two integral clips for snap-in mounting to panels .060″ to .150″ thick; can be strip mounted or individually mounted in single cutout. Size, .82″ x .86″ x 2.110″ deep overall.

POWER SWITCHES (PRODUCT CLASS 125)

Available with Form X (SPST-NO double-make), Form Y (SPST-NC double-break) or Form Z (SPDT double-make double-break, break-before-make) contacts. **Ratings:** 5 amps inductive/resistive at 115 VAC; 3 amps ind., 5 amps res. at 28 VDC. **Life:** 100,000 operations at rated load. **Operating Force:** 8.0 oz. approx. **Total Travel:** 0.250″ approx. **Series 3A:** For matrix or strip mounting; requires Type 3M hardware. **Series 3A-1:** Same as 3A, but with connector block. **Series 3G:** Individual or strip mounting; no additional hardware needed (To order, change prefix **3A** to **3G**).

Poles	Switch Circuit, Form	Action	Lamp Circuits	Series 3A† M.S. No.	Series 3A† List Price	Series 3A-1 M.S. No.	Series 3A-1 List Price
1	Z	Mom.	2	3A10(*)	$3.90	3A10(*)-1	$5.40
1	X	Mom.	2	3A11(*)	3.30	3A11(*)-1	4.60
1	Y	Mom.	2	3A12(*)	3.30	3A12(*)-1	4.60
1	Z	Mom.	1	3A13(*)	3.75	3A13(*)-1	5.15
1	X	Mom.	1	3A14(*)	3.15	3A14(*)-1	4.30
1	Y	Mom.	1	3A15(*)	3.15	3A15(*)-1	4.30
2	Z	Mom.	2	3A20(*)	5.00	3A20(*)-1	7.10
2	X	Mom.	2	3A21(*)	3.90	3A21(*)-1	5.40
2	Y	Mom.	2	3A22(*)	3.90	3A22(*)-1	5.40
2	1Z, 1Y	Mom.	2	3A23(*)	4.40	3A23(*(-1	6.25
2	1X, 1Z	Mom.	2	3A24(*)	4.40	3A24(*)-1	6.25
2	Z	Mom.	1	3A25(*)	4.85	3A25(*)-1	6.85
2	X	Mom.	1	3A26(*)	3.75	3A26(*)-1	5.15
2	Y	Mom.	1	3A27(*)	3.75	3A27(*)-1	5.15
2	1Z, 1Y	Mom.	1	3A28(*)	4.25	3A28(*)-1	6.00
2	1X, 1Z	Mom.	1	3A29(*)	4.25	3A29(*)-1	6.00
1	Z	Alt.	2	3A30(*)	3.90	3A30(*)-1	5.40
1	X	Alt.	2	3A31(*)	3.30	3A31(*)-1	4.60
1	Y	Alt.	2	3A32(*)	3.30	3A32(*)-1	4.60
1	Z	Alt.	1	3A33(*)	3.75	3A33(*)-1	5.15
1	X	Alt.	1	3A34(*)	3.15	3A34(*)-1	4.30
1	Y	Alt.	1	3A35(*)	3.15	3A35(*)-1	4.30
2	Z	Alt.	2	3A40(*)	5.00	3A40(*)-1	7.10
2	X	Alt.	2	3A41(*)	3.90	3A41(*)-1	5.40
2	Y	Alt.	2	3A42(*)	3.90	3A42(*)-1	5.40
2	1Z, 1Y	Alt.	2	3A43(*)	4.40	3A43(*)-1	6.25
2	1X, 1Z	Alt.	2	3A44(*)	4.40	3A44(*)-1	6.25
2	Z	Alt.	1	3A45(*)	4.85	3A45(*)-1	6.85
2	X	Alt.	1	3A46(*)	3.75	3A46(*)-1	5.15
2	Y	Alt.	1	3A47(*)	3.75	3A47(*)-1	5.15
2	1Z, 1Y	Alt.	1	3A48(*)	4.25	3A48(*)-1	6.00
2	1X, 1Z	Alt.	1	3A49(*)	4.25	3A49(*)-1	6.00
1	Z	Mom.	None	3A50(*)	3.55	3A50(*)-1	4.90
1	X	Mom.	None	3A51(*)	3.00	3A51(*)-1	4.05
1	Y	Mom.	None	3A52(*)	3.00	3A52(*)-1	4.05
2	Z	Mom.	None	3A53(*)	4.65	3A53(*)-1	6.55
2	X	Mom.	None	3A54(*)	3.55	3A54(*)-1	4.90
2	Y	Mom.	None	3A55(*)	3.55	3A55(*)-1	4.90
2	1Z, 1Y	Mom.	None	3A56(*)	4.10	3A56(*)-1	5.70
2	1X, 1Z	Mom.	None	3A57(*)	4.10	3A57(*)-1	5.70
1	Z	Alt.	None	3A58(*)	3.55	3A58(*)-1	4.90
1	X	Alt.	None	3A59(*)	3.00	3A59(*)-1	4.05
1	Y	Alt.	None	3A60(*)	3.00	3A60(*)-1	4.05
2	Z	Alt.	None	3A61(*)	4.65	3A61(*)-1	6.55
2	X	Alt.	None	3A62(*)	3.55	3A62(*)-1	4.90
2	Y	Alt.	None	3A63(*)	3.55	3A63(*)-1	4.90
2	1Z, 1Y	Alt.	None	3A64(*)	4.10	3A64(*)-1	5.70
2	1X, 1Z	Alt.	None	3A65(*)	4.10	3A65(*)-1	5.70

*Add suffix (**A** thru **P**) from table below to indicate color. †For series 3G, change prefix **3A** to **3G**; prices are the same.

*COLOR CODES

Add code letter as a suffix to Micro Switch Type No. (for switches or indicators with connector block, the code letter should be inserted before the **-1** in Type No.: e.g., 3A10**A**-1).

Color Code	Housing (Bezel‡)	Barrier	Color Code	Housing (Bezel‡)	Barrier
A	Black	None	**G**	Red	Red
F	Black	Black	**C**	Green	None
L	Gray	None	**H**	Green	Green
M	Gray	Gray	**D**	Blue	None
N	White	None	**J**	Blue	Blue
P	White	White	**E**	Yellow	None
B	Red	None	**K**	Yellow	Yellow

‡Bezel provided with types 3G, 3H and 3J only.

Lighted pushbutton switches and matching lighted indicators are available in a wide array of options for display and design flexibility. Choice of matrix, individual or strip mounting; designed for uniform panel appearance. Switches and lamps can be replaced from front of panel; buttons (order separately) are re-legendable. Available with momentary or two-level alternate action; as 5-amp power switches with Form X, Y or Z contacts; or Form A reed switches; all with audible "click click" feedback. Choice of five lighted display colors and seven housing colors.

REED SWITCHES (PRODUCT CLASS 125)

Form A (normally open) contacts; momentary or alternate action. **AC Ratings:** 12 VA max., inrush or resistive. Max. current, 250 mA at 12 VA. **DC Ratings:** 8 watts max. resistive only. Max. current, 250 mA at 8 watts. **Operating Force:** 3.0 oz. **Total Travel:** 0.250″ approx. **Termination:** Direct wire plug-in to connector blocks, or PC terminals. **Series 3B:** For matrix or strip mounting; requires 3M type hardware. **Series 3B-1:** Same as 3B, but with addition of connector block. **Series 3H:** Individual or strip mounting; no additional hardware required (change prefix **3B** to **3H**).

Poles	Action	Lamp Ckts.	Termination‡	Series 3B† M.S. No.	Series 3B† List	Series 3B-1 M.S. No.	Series 3B-1 List
1	Mom.	2	DW	3B10(*)	$4.15	3B10(*)-1	$5.25
1	Mom.	1	DW	3B11(*)	4.00	3B11(*)-1	5.00
2	Mom.	2	DW	3B20(*)	5.35	3B20(*)-1	6.45
2	Mom.	1	DW	3B21(*)	5.20	3B21(*)-1	6.65
1	Alt.	2	DW	3B30(*)	4.15	3B30(*)-1	5.25
1	Alt.	1	DW	3B31(*)	4.00	3B31(*)-1	5.00
2	Alt.	2	DW	3B40(*)	5.35	3B40(*)-1	6.95
2	Alt.	1	DW	3B41(*)	5.20	3B41(*)-1	6.65
1	Mom.	2	PC	3B50(*)	4.15	3B50(*)-1	5.25
1	Mom.	1	PC	3B51(*)	4.00	3B51(*)-1	5.00
2	Mom.	2	PC	3B60(*)	5.35	3B60(*)-1	6.45
2	Mom.	1	PC	3B61(*)	5.20	3B61(*)-1	6.65
1	Alt.	2	PC	3B70(*)	4.15	3B70(*)-1	5.25
1	Alt.	1	PC	3B71(*)	4.00	3B71(*)-1	5.00
2	Alt.	2	PC	3B80(*)	5.35	3B80(*)-1	6.95
2	Alt.	1	PC	3B81(*)	5.20	3B81(*)-1	6.65

*Add suffix (**A** thru **P**) from table below to indicate color. †For Series 3H, change prefix **3B** to **3H**; prices are the same. ‡DW—For direct wiring to switch; PC—For terminating on printed circuit board.

BUTTONS (PRODUCT CLASS 124)

Re-legendable one-section and two-section buttons are easily removed by pulling forward out of switch or indicator housing. Lamps and legends can be changed from front of panel. Transparent colorless insert fits over colored diffuser plate and snaps into button shell. Legends may be applied to diffuser plate, which can be easily changed. Display is provided by one or two T-1, 5 or 28-volt lamps. For hot stamp legends (up to six 7⁄64″ high letters in each or two rows) change **N** in Type No. to **L** and add **$0.30** to List Price.

Micro Switch Number	Display	Shell Color	Lamps (Assembled)	List Price
3D-11(**)1N-1	1-section	Black	One 5-volt	$2.35
3D-11(**)1N-2	1-section	Black	Two 5-volt	3.35
3D-11(**)1N-3	1-section	Black	One 28-volt	3.05
3D-11(**)1N-4	1-section	Black	Two 28-volt	4.75
3D-11(**)1N	1-section	Black	None	1.35
3D-21(**)1N-1	2-section	Black	One 5-volt	3.05
3D-21(**)1N-2	2-section	Black	Two 5-volt	4.05
3D-21(**)1N-3	2-section	Black	One 28-volt	3.75
3D-21(**)1N-4	2-section	Black	Two 28-volt	5.45
3D-21(**)1N	2-section	Black	None	2.05

Insert two letters to indicate display colors (W**—white; **R**—red; **G**—green; **B**—blue; **Y**—yellow). For two-section buttons, add letter for top section first, then for bottom section. For one-section buttons, add double letter (**RR, BB,** etc.).

LIGHTED INDICATORS (PRODUCT CLASS 125)

M.S. No.†	Lamp Circuits	Mounting Type	List Price
3C10	2	Matrix or strip mounting;	$1.95
3C11	1	requires 3M type hardware	1.80
3C10-1	2	Same as above, but with	2.80
3C11-1	1	addition of connector block	2.45
3J10	2	Individual or strip mounting;	1.95
3J11	1	no additional hardware needed	1.80

†Add suffix (**A** thru **P**) from table below to indicate color.

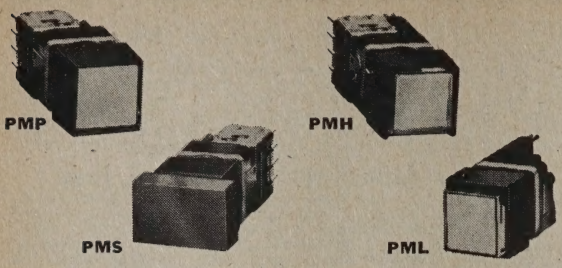
MOUNTING HARDWARE (PRODUCT CLASS 126)

For strip or matrix mounting of 3A, 3B and 3C modules. Consists of two mounting bars and two mounting blocks. **Type 3M1:** For use with connector blocks for plug-in wiring. **Type 3M2:** Narrow width type for direct wiring. To determine row length, add the number of switches and/or indicators; then convert the total to the proper suffix number (i.e., **09** for a 5-row unit).

Row Lgth., Units	Standard No. 3M1-	Standard List Price	Narrow No. 3M2-	Narrow List Price	Row Lgth., Units	Standard No. 3M1-	Standard List Price	Narrow No. 3M2-	Narrow List Price
1	01	$2.00	01	$1.85	9	17	$2.65	17	$2.30
2	03	2.00	03	1.85	10	19	2.65	19	2.30
3	05	2.00	05	1.85	11	21	2.65	21	2.30
4	07	2.00	07	1.85	12	23	2.65	23	2.30
5	09	2.00	09	1.85	13	25	2.65	25	2.30
6	11	2.00	11	1.85	14	27	2.65	27	2.30
7	13	2.00	13	1.85	15	29	2.65	29	2.30
8	15	2.00	15	1.85	16	31	2.65	31	2.30

WRITE OR CALL US FOR QUANTITY DISCOUNTS

MICRO SWITCH SERIES PM OILTIGHT PUSHBUTTONS



Compact, space-saving pushbuttons offer oiltight control and indication in attractive, functional styling. Modern square shape provides new flexibility in format and savings in panel space, without sacrificing visual feedback. Each unit mounts in 7/8" dia. keyed hole, yet displays a full 0.9" x 0.9" panel front area. Lighted units use up to four miniature lamps to illuminate full, 2, 3 or 4-section legendable displays. Modular design with interchangeable switching elements for up to 4 SPDT circuits on a single device, with momentary or alternate action. Mount into panels 1/16" to 1/4" thick, maintaining oiltight seal. Compatible with solid state and electronic circuits and relays.

Oiltight Seal consists of a seal ring around the operating plunger and spacer seals around the mounting bushing. Both shaft and panel seals are Buna-N elastomers for long-life sealing. One to four spacer seals are used, depending upon panel thickness.

Display Options: Type PMH lighted pushbuttons and PML indicating lights offer choice of displays: Full display with one T-1 3/4 bi-pin lamp; 2-section horizontal split with two T-1 1/4 bi-pin lamps; 3-section, half horizontal (split top or bottom) with four T-1 1/4 bi-pin lamps; or 4-section with four T-1 1/4 bi-pin lamps. In four-lamp devices, no more than two lamps may be lighted continuously at full voltage. Choice of 6, 14 or 28 volts.

Bezels: Full guard type extends beyond button surface on all four sides; half guard type extends on two opposite sides; unguarded type is lower than unoperated button surface on all sides. Full and half guard bezels are generally used on pushbuttons; indicating lights are usually left unguarded. Bezels are supplied at a cost of **50c** additional.

Push-on Terminals: Dual tab terminals accept one or two wires on each terminal using .062" push-on connectors (one wire on each terminal with .187" connectors). Single pin terminals use single-wire push-on connectors. Terminals are well exposed for easy, direct back-of-panel wiring even after devices are installed.

Ordering: Series PM devices are available as a complete unit with switching element (except PML, which is an indicating light only); or interchangeable switching elements can be ordered separately. Individual components (bezels, inserts, display sets, cap sets) are also available separately; write for prices.

SWITCHING ELEMENTS

Modular elements consist of Micro Switch proven snap-action basic switches, keyed mounting bracket, and operating mechanism. Positive operation with snap feel; circuits cannot be teased. Momentary or alternate action; Form C (SPDT) or Form Z (2-circuit double break) contacts. To order switching element alone, use complete Number (PMC-CB, etc.). To order the switching element as part of a complete pushbutton unit, add the two-letter code shown (CB, DB, etc.) as a suffix to the pushbutton number as described above, right, and add the appropriate cost.

M.S. No. PMC-	Contact Arrangement	Contacts	Switching Action	Terminal Type	List Price
CB	1 Form C	Silver	Momentary	Dual tab	$ 6.40
DB	1 Form C	Silver	Momentary	Single pin	6.40
JB	1 Form C	Gold	Momentary	Dual tab	7.80
CC	2 Form C	Silver	Momentary	Dual tab	8.30
DC	2 Form C	Silver	Momentary	Single pin	8.30
CG	2 Form C	Silver	Alternate	Dual tab	12.30
DG	2 Form C	Silver	Alternate	Single pin	12.30
JC	2 Form C	Gold	Momentary	Dual tab	10.30
CD	3 Form C	Silver	Momentary	Dual tab	11.60
DD	3 Form C	Silver	Momentary	Single pin	11.60
CE	4 Form C	Silver	Momentary	Dual tab	19.50
DE	4 Form C	Silver	Momentary	Single pin	19.50
CJ	4 Form C	Silver	Alternate	Dual tab	23.50
DJ	4 Form C	Silver	Alternate	Single pin	23.50
WK	1 Form Z	Silver	Momentary	Screw	6.40

ELECTRICAL RATINGS

Momentary Contact Type	Ratings, Amps: Inductive 120 VAC	Inductive 240 VAC	Resis. 240 VAC	Continuous	30 VDC Make/Break
Form C silver	7.5 make 1.2 break	.....	5 make 5 break	5	2.5 induc. resis.
Form Z silver	30 make 3 break	15 make 1.5 break	10 make 10 break	10	10 resistive

Form C gold contacts have no AC ratings established: rated 0.25 amp inductive, 1.0 amp resistive at 30 VDC. Electrical life, 250,000 operations at maximum rated load except Form C gold, 25,000 operations at 1.0 amp resistive. Alternate action switch ratings are slightly less than shown.

WRITE OR CALL FOR QUANTITY DISCOUNTS

TYPE PMP/PMS UNLIGHTED PUSHBUTTONS

To Order: Add suffixes indicated to specify button or insert color, bezel type (if any), and switching element (if any). Example: PMP32T8CB has standard plunger and square opaque cap, orange button, full guard black bezel, switching element type CB.

PMP — **Basic Plunger Type**
PMP— standard
PMS— extended

32 — **Button Style** (see table)

T — **Button/Insert Color**
A—None
R—Red
T—Orange
Y—Yellow
G—Green
B—Blue
W—White
K—Black (opaque cap only)

8 — **Bezel**
1—None
2—Unguarded black
3—Unguarded metallic
4—Half guard black
5—Half guard metallic
8—Full guard metallic
9—Full guard metallic

CB — **Switching Element** (from table at left)

-22 — **Legend** (write for information)

M.S. Prefix	Plunger Type	Button Style	List Price*
PMP32	Standard	Square opaque cap	$ 8.60
PMP33	Standard	Square clear cap†	8.60
PMP21A	Standard	No capset	8.60
PMS32	Extended	Square opaque cap	11.60
PMS42	Extended	Rectangular opaque cap	11.60
PMS21A	Extended	No capset	11.60

*Add price of appropriate switching element desired, from separate listing at left; add **$1.00** if bezel desired. †Has translucent insert.

TYPE PMH LIGHTED PUSHBUTTONS

To Order: Prefix **PMH** indicates basic type, following letter (**C, D,** etc.) indicates terminals per table, below; add suffixes indicated to specify insert color, bezel (if any) and switching element (if any). Example: PMHG122BW2CB has two 5-6 VAC/DC lamps, dual tab terminals, 2-section horizontal split display, blue and white insert colors, unguarded black bezel, and type CB switching element.

12 — **Lamp Voltage**
10—No lamps
12—5-6 VAC/DC
13—12-14 VAC/DC
15—24-28 VAC/DC

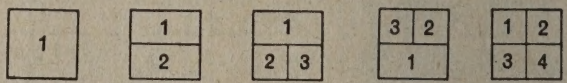
2 — **Display Configuration** (see table)

BW — **Insert Colors** (1 to 4 letters in display order shown below)
A—No display
R—Red
T—Amber
Y—Yellow
G—Green
B—Blue
W—White

2 — **Bezel**
1—None
2—Unguarded black
3—Unguarded metallic
4—Half guard black
5—Half guard metallic
8—Full guard black
9—Full guard metallic

CB — **Switching Element** (see table at left)

Display Configurations



Full — 2-Section — 3-Section, Half at Top — 3-Section, Half at Bottom — 4-Section

M.S. Prefix	No. of Lamps	Terminals	Display Configuration	List Price†
PMHC(**)5	1	Dual tab	Full	$16.40
PMHD(**)5	1	Single pin	Full	16.40
PMHG(**)2	2	Dual tab	2-section horiz.	29.00
PMHH(**)2	2	Single pin	2-section horiz.	29.00
PMHL(**)3	4	Dual tab	3-sect., 1/2 at top	47.80
PMHL(**)8	4	Dual tab	3-sect., 1/2 at bottom	47.80
PMHL(**)4	4	Dual tab	4-section	47.80
PMHM(**)3	4	Single pin	3-sect., 1/2 at top	47.80
PMHM(**)8	4	Single pin	3-sect., 1/2 at bottom	47.80
PMHM(**)4	4	Single pin	4-section	47.80

Insert two digits as shown above to indicate lamp voltage. For pushbuttons without lamps, deduct **$1.00 for one lamp, **$7.20** for two lamps, or **$19.60** for four lamps. †Add price of switching element desired; add **$1.00** for bezel, if desired.

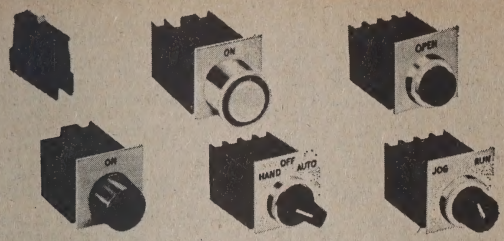
TYPE PML INDICATING LIGHTS

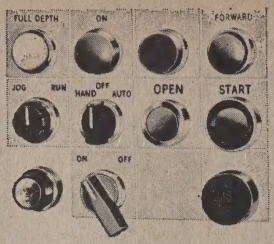
Identical to Type PMH above, but without switching elements. **To Order:** Follow same procedure as Type PMH, but substitute prefix **PML** for PMH and omit suffix for switching element. Prices are identical to PMH, without a switching element.

LEGENDS

All Series PM pushbuttons and indicating lights are available with a wide variety of standard legends at **$0.40** additional. Write for a complete list of legends available and pricing information.

MICRO SWITCH SERIES PW OILTIGHT PUSHBUTTONS





PWC CONTACT BLOCKS

Standard-duty contact block controls loads up through NEMA size 4 contactors and motor starters. Has double-break construction, chisel-shaped, fine silver contacts. **General-purpose electronic duty contact block** designed for controlling electronic and small magnetic loads up through NEMA size 1 contactors. Has single-break snap-acting design with silver contacts. **Low-level electronic duty contact block** for low energy loads usually under 50 volts. Has snap-acting design with gold bifurcated (two points in parallel) contacts. Contact blocks available with **Circuit Form X** (SPST-NO double-break), **Form Y** (SPST-NC double-break), or **Form C** (SPDT single-break) contacts. Any combination of four contact blocks may be used with one operator (two contact blocks with lighted pushbuttons).

ELECTRICAL RATINGS

Electrical Rating	Volts	Amperes Make	Amperes Break	Type Load
A	120 AC	30	3	.35 PF capacitive
	125 DC	1.1	1.1	Inductive
	30 DC	10	10	Inductive
B	120 AC	7.5	1.2	.35 PF capacitive
	30 DC	3	3	Inductive
	30 DC	5	5	Resistive
C	120 AC max.	1	1	Resistive
	30 DC max.	0.5	0.5	Inductive
	30 DC max.	1	1	Resistive

Micro-Switch No.	Contact Block Type	Term. Type	Elect. Rating	Circuit Form	Contacts	List Price
PWCD	Standard	Screw	A	X	Silver	$3.20
PWCE	Standard	Screw	A	Y	Silver	3.20
PWCK	Standard	Screw	A	X	Silver	3.20
PWCJ	Standard	Screw	A	Y	Silver	3.20
PWCF	Standard	Push-On	A	X	Silver	3.00
PWCG	Standard	Push-On	A	Y	Silver	3.00
PWCC	Gen. Purp.	Push-On	B	C	Silver	5.40
PWCB	Low Level	Push-On	C	C	Gold	8.00
PWCM	Gen. Purp.	Screw	B	C	Silver	5.70
PWCL	Low Level	Screw	C	C	Gold	8.30

PWP AND PWM UNLIGHTED PUSHBUTTONS

Unlighted pushbuttons with extended heads, full guard, and full guard (large opening), plus 1⅛″ and 1½″ mushroom heads. Full guards (large opening) provide opening as large as heavy duty oiltight devices and permit operation by a gloved finger. Any combination of standard duty or electronic duty contacts block (up to a maximum of four) may be used with these pushbuttons. Size, behind panel, 1$^{13}/_{32}$″ w. x 1$^{15}/_{16}$″ d. x 1$^{7}/_{32}$″ h. Legend plates, 1$^{15}/_{32}$″ w. x 1$^{15}/_{32}$″ h.

M-S No.	Description†	List Pr.
PWP1	Unlighted pushbutton without ring	$ 4.40
PWP2	Unguarded, extended head pushbutton w/ring	5.40
PWP3	Full guard, ¾″ I.D., w/ring	5.40
PWP4	Full guard (large opening) 1″ I.D. w/ring	5.40
PWM2	Mushroom head unit, small, 1⅛″ dia.	11.40
PWM3	Mushroom head unit, large, 1½″ dia.	11.40

†**Add suffix for button color:** **2** (Black), **3** (Red), **4** (Orange), **5** (Yellow), **6** (Green), **7** (Blue), **8** (White); (e.g., PWP12, Operator with unlighted black button without ring). Mushroom head units in black, red and yellow only.

PWH LIGHTED PUSHBUTTONS

Combines function of an unlighted pushbutton and an indicator in one unit. Saves space and cost. Offers guarded lens and extended lens versions. Translucent pigmented nylon lens provides long operating life and high chemical resistance. Choice of lens colors. Transformer equipped units available for operation at 120 VAC, resistor units for 120 VAC/DC; and full voltage devices for operation at 6–8; 12–14; or 24–28 volts. Lighted pushbuttons accept one or two contact blocks. Size, behind panel, 1$^{13}/_{32}$″ w. x 1$^{15}/_{16}$″ d. x 1$^{7}/_{32}$″ h. Legend plates, 1$^{15}/_{32}$″ w. x 1$^{15}/_{32}$″ h. Listed are lighted pushbuttons with **Extended Lens.** To order lighted pushbutton with **Full Guard** instead, change first numerical digit to **3** (e.g., PWH310). To order lighted pushbutton with **Full Guard, Large Opening,** change first numerical digit to **4** (e.g., PWH410). For all models, add suffix for button color: **3** (Red), **4** (Amber), **5** (Yellow), **6** (Green), **7** (Blue), **8** (White).

PWH LIGHTED PUSHBUTTONS (CONT'D)

Micro-Switch No.	Term. Type	Micro-Switch No.	Term. Type	Voltage	List Price
PWH210	Screw	PWH250	Push-On	Full (less lamp)	$16.40
PWH212	Screw	PWH252	Push-On	6–8 Volts	17.40
PWH213	Screw	PWH253	Push-On	12–14 Volts	17.40
PWH215	Screw	PWH255	Push-On	24–28 Volts	17.40
PWH221	Screw	PWH261	Push-On	Trans. 120 VAC	21.40
PWH231	Screw	PWH271	Push-On	Res., 120 VAC/DC	17.40

PWL ONE-LAMP AND PUSH-TO-TEST INDICATORS AND PWD TWO-LAMP INDICATORS

Superior lens design gives brilliant indication from any angle. Indicating lights and push-to-test lenses have different shapes for easy recognition. Push-to-test form permits manual check of lamp. Lenses, in choice of colors, remove easily without disturbing units' mounting ring. Two-lamp indicators offer split lens and legends on insert to show dual status—OPEN/CLOSE, OFF/ON, UP/DOWN, IN/OUT, etc. Size, behind panel, 1$^{13}/_{32}$″ w. x 1$^{15}/_{16}$″ d. x 1$^{7}/_{32}$″ h. Legend plates, 1$^{15}/_{32}$″ w. x 1$^{15}/_{32}$″ h. **To order PWD Two-Lamp Indicating Lights** write for ordering information and prices. **PWL One-Lamp Indicating Lights, Choice of Lens Color†.** To order **Push-to-Test Indicator** change letter B to **P** (e.g., PWLP10) and add **$6.00** to list price.

PWLB10	Screw	PWLB50	Push-On	Full (less lamp)	$16.40
PWLB12	Screw	PWLB52	Push-On	6–8 Volts	17.40
PWLB13	Screw	PWLB53	Push-On	12–14 Volts	17.40
PWLB15	Screw	PWLB55	Push-On	24–28 Volts	17.40
PWLB21	Screw	PWLB61	Push-On	Trans. 120 VAC	21.40
PWLB31	Screw	PWLB71	Push-On	Res., 120 VAC/DC	17.40

†**Add suffix for lens color:** **3** (Red), **4** (Amber), **5** (Yellow), **6** (Green), **7** (Blue), **8** (White). (e.g., PWH2103, red lens.)

PWS AND PWK SELECTOR UNITS

Knob or wing lever selectors are offered in a choice of two, three, four, or five maintained position and two or three position spring return. Knobs and wing levers available in choice of colors with contrasting black or white indicating line. Wing levers provide large gripping area, ideally suited for gloved-hand operation and for frequent operation of spring return units. Key-operated selectors offered in a variety of lock and withdrawal positions. Two keys supplied with each operator. Selectors provide separate cam surface for each of four contact blocks. Selectors accept up to four contact blocks in any combination of standard and electronic duty for multiple-circuit flexibility. Complete information available on request.

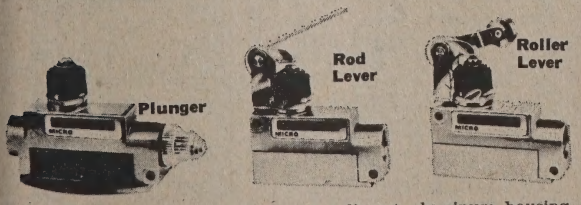
PWU SELECTOR-PUSH UNITS

Selector-push units offered in 2- or 3-position maintained with extended button. Many cam choices permit wide range of sequencing possibilities. Push features are accomplished by pins that extend through the turn cam. Accept up to four contact blocks in any combination of standard and electronic duty for multiple-circuit versatility. Complete information available on request.

PWN LEGEND PLATES

Standard aluminum legend plates have words with $^{9}/_{64}$″ high characters except "STOP" which may be ordered in $^{13}/_{64}$″ high also. Special and custom legends may be ordered. Plates available in aluminum or plastic. Complete information on request.

BZG/BZH ENCLOSED SWITCHES



Operating Characteristics	Model Type: Plunger	Rod Lever	Roller Lever
Operating Force	9–24 oz.	3–7 oz.	10–20 oz.
Release Force	4 oz. min.	1 oz. min.	6 oz. min.
Pretravel	.078 max.	.718 max.	.188 max.
Differential Travel	.002 max.	.229 max.	.006 max.
Overtravel	.219 min.	.828 min.	.219 min.

Micro-Switch No. Side Mount	Micro-Switch No. Flange Mount	No. Conduit Openings	Actuator Type	List Price
BZG1-2RN	BZH1-2RN	1	Plunger	$ 9.35
BZG2-2RN	BZH2-2RN	2	Plunger	10.85
BZG1-2RN62	BZH1-2RN62	1	Rod Lever	13.70
BZG2-2RN62	BZH2-2RN62	2	Rod Lever	15.10
BZG1-2RN2	BZH1-2RN2	1	Roller Lever	13.70
BZG2-2RN2	BZH2-2RN2	2	Roller Lever	15.10

Completely sealed construction with a diecast aluminum housing form a NEMA 1 and 4 enclosure. SPST precision switching element is rated 15-amps at 125, 250 or 480 VAC. Choice of sturdy side and flange mounting. Sizes of side mount plunger models are: 3.391″ w. (single conduit), 3.902″ w. (double conduit) x 1.024″ d. x 3.022″ h.

MICRO SWITCH HEAVY DUTY "LS" OILTIGHT LIMIT SWITCHES

Side Rotary Actuated

Top Rotary Actuated

Advanced design limit switches feature mounting and tracking interchangeability, design flexibility and improved, rugged oiltight construction. Superior corrosion-resistant enclosures with wide cam tracking possibilities, new lever lock, single-pole and double-pole circuits, self-lifting pressure plate terminals, grounding screw. Available with a variety of actuator types in plug-in or non-plug-in enclosures. Designed for long, trouble-free life with heavy zinc alloy diecast housing to withstand great physical abuse. All external surfaces are epoxy painted. Extended operating temperature limit of 250° F. Generous overtravel on all types gives extra design freedom. Enclosures with circuit indicating light are available for 120 or 240 VAC in single-pole plug-in models.

Positive sealing keeps oil, water and dust out; design meets NEMA classifications 1, 4 and 13. Double elastomer seals on lever operating shaft; elastomer boot seal on plunger and wobble lever actuated switches (listed on following page); elastomer diaphragm seal between operating head and housing; gasket seal between cover and housing (non-plug-in switches) and between plug-in switch and mounting base.

Mount from either front or back; all types have identical mounting centers. Easy installation and maintenance with self-lifting pressure plates on all wiring terminals. Plug-in switches permit replacement of switching component in seconds. Rotary actuating levers lock in any position through 360° around the shaft; head may be positioned and locked in any of four 90° positions. Double actuating shaft bearings on rotary types.

Contact block housings are molded from arc resistant thermosetting plastic compound which does not deteriorate with age. Contacts are fine silver or gold plated fine silver. Single-pole switches with fine silver contacts have movable contacts of silver-cadmium-oxide alloy. UL and NEMA industrial 600-volt spacing.

ELECTRICAL RATINGS

Listed by UL; Certified by CSA: 10 A continuous carry.

Switch Type	Action	Rating, Amperes							
		Power Factor 0.35				Inductive		Resistive	
		120 VAC	240 VAC	480 VAC	600 VAC	120 VDC	240 VDC	120 VDC	240 VDC
SPDT	Make	60	30	15	12	0.25	0.15	0.8	0.4
	Break	6.0	3.0	1.5	1.2	0.25	0.15	0.8	0.4
DPDT	Make	30	15	7.5	6.0	0.25	0.15	0.8	0.4
	Break	3.0	1.5	0.75	0.6	0.25	0.15	0.8	0.4

Note: Standard switches operate both clockwise and counter-clockwise; rotary heads are assembled with shaft to front or label side of switch. For clockwise operation only, add suffix **1** to Micro Switch Number; for counter-clockwise only, add suffix **2**; for head with shaft to right side, suffix **3**; for head with shaft to left, **4**; for head with shaft toward back, **5**.

SIDE ROTARY ACTUATED, MOMENTARY CONTACT SWITCHES

STANDARD PRETRAVEL AND OPERATING TORQUE

Pretravel: 15° max. **Differential:** SPDT, 5° max.; DPDT, 7° max. **Overtravel:** 60° min. **Oper. Torque:** 4 in.-lbs. max.

M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSA1A	SPDT	Plug-in	½"	None	**$33.00**
LSA1E	SPDT*	Plug-in	½"	None	**35.00**
LSA5A	SPDT†	Plug-in	½"	120 volt	**39.00**
LSA8A	SPDT†	Plug-in	½"	240 volt	**39.00**
LSA3K	SPDT	Non-plug-in	½"	None	**29.00**
LSA2B	DPDT	Plug-in	¾"	None	**40.00**
LSA6B	DPDT	Plug-in	½"	None	**40.00**
LSA4L	DPDT	Non-plug-in	¾"	None	**35.00**
LSA7L	DPDT	Non-plug-in	½"	None	**35.00**

LOW OPERATING TORQUE, STANDARD PRETRAVEL

Pretravel: 15° max. **Differential:** SPDT, 5° max.; DPDT, 7° max. **Overtravel:** 60° min. **Oper. Torque:** 1.7 in.-lbs. max.

LSR1A	SPDT	Plug-in	½"	None	**$33.00**
LSR1E	SPDT*	Plug-in	½"	None	**35.00**
LSR5A	SPDT†	Plug-in	½"	120 volt	**39.00**
LSR8A	SPDT†	Plug-in	½"	240 volt	**39.00**
LSR3K	SPDT	Non-plug-in	½"	None	**29.00**
LSR2B	DPDT	Plug-in	¾"	None	**40.00**
LSR6B	DPDT	Plug-in	½"	None	**40.00**
LSR4L	DPDT	Non-plug-in	¾"	None	**35.00**
LSR7L	DPDT	Non-plug-in	½"	None	**35.00**

LOW DIFFERENTIAL, STANDARD TORQUE

Pretravel: 7° max. **Differential:** SPDT, 3° max.; DPDT, 4° max. **Overtravel:** 68° min. **Oper. Torque:** 4 in.-lbs. max.

LSP1A	SPDT	Plug-in	½"	None	**$35.00**
LSP1E	SPDT*	Plug-in	½"	None	**37.00**
LSP5A	SPDT†	Plug-in	½"	120 volt	**41.00**
LSP8A	SPDT†	Plug-in	½"	240 volt	**41.00**
LSP3K	SPDT	Non-plug-in	½"	None	**31.00**
LSP2B	DPDT	Plug-in	¾"	None	**42.00**
LSP6B	DPDT	Plug-in	½"	None	**42.00**
LSP4L	DPDT	Non-plug-in	¾"	None	**37.00**
LSP7L	DPDT	Non-plug-in	½"	None	**37.00**

LOW DIFFERENTIAL, LOW TORQUE

Pretravel: 7° max. **Differential:** SPDT, 3° max.; DPDT, 4° max. **Overtravel:** 68° min. **Oper. Torque:** 1.7 in.-lbs. max.

LSH1A	SPDT	Plug-in	½"	None	**$35.00**
LSH1E	SPDT*	Plug-in	½"	None	**37.00**
LSH5A	SPDT†	Plug-in	½"	120 volt	**41.00**
LSH8A	SPDT†	Plug-in	½"	240 volt	**41.00**
LSH3K	SPDT	Non-plug-in	½"	None	**31.00**
LSH2B	DPDT	Plug-in	¾"	None	**42.00**
LSH6B	DPDT	Plug-in	½"	None	**42.00**
LSH4L	DPDT	Non-plug-in	¾"	None	**37.00**
LSH7L	DPDT	Non-plug-in	½"	None	**37.00**

TOP ROTARY ACTUATED MOMENTARY CONTACT SWITCHES

Pretravel: 35° max. **Differential:** SPDT, 8° max.; DPDT, 12° max. **Overtravel:** 100° min. **Oper. Torque:** 2.5 in.-lbs. max.

LSB1A	SPDT	Plug-in	½"	None	**$35.00**
LSB1E	SPDT*	Plug-in	½"	None	**37.00**
LSB5A	SPDT†	Plug-in	½"	120 volt	**41.00**
LSB8A	SPDT†	Plug-in	½"	240 volt	**41.00**
LSB3K	SPDT	Non-plug-in	½"	None	**31.00**
LSB2B	DPDT	Plug-in	¾"	None	**42.00**
LSB6B	DPDT	Plug-in	½"	None	**42.00**
LSB4L	DPDT	Non-plug-in	¾"	None	**37.00**
LSB7L	DPDT	Non-plug-in	½"	None	**37.00**

SIDE ROTARY ACTUATED MAINTAINED CONTACT SWITCHES

Pretravel: 65° max. **Differential:** SPDT, 30° max.; DPDT, 35° max. **Overtravel:** 20° min. **Oper. Torque:** 4 in.-lbs. max.

LSN1A	SPDT	Plug-in	½"	None	**$39.00**
LSN1E	SPDT*	Plug-in	½"	None	**41.00**
LSN5A	SPDT†	Plug-in	½"	120 volt	**45.00**
LSN8A	SPDT†	Plug-in	½"	240 volt	**45.00**
LSN3K	SPDT	Non-plug-in	½"	None	**35.00**
LSN2B	DPDT	Plug-in	¾"	None	**46.00**
LSN6B	DPDT	Plug-in	½"	None	**46.00**
LSN4L	DPDT	Non-plug-in	¾"	None	**41.00**
LSN7L	DPDT	Non-plug-in	½"	None	**41.00**

*Gold plated contacts for low-energy circuits. Rated 10 amps continuous; .01 amp, 5 VAC or 5 VDC; 720 VA, 600 VAC or 30 watts, 240 VDC pilot rating. May be used also at same ratings for regular silver contacts, SPDT switches. †Use only at voltage stated for indicator light.

LEVERS FOR ROTARY ACTUATED SWITCHES

Standard Adjustable Yoke Rod Offset

Special levers permit a wide range of cam tracking possibilities with side or top rotary actuated switches. **Standard Levers** have fixed 1½" radius with roller on either side of lever (open or closed). **Adjustable Levers** can be set from 1½" to 3½" radius. **Offset Levers** have fixed 1½" radius, with rollers on either side. **Yoke Levers** are for use with side rotary maintained contact switches. **Rod Levers** can be formed to meet individual requirements. **To order** lever alone, use complete M.S. Number (e.g., LSZ51A). To order lever as a unit with rotary actuated switches, add suffix (-1A, -1B, etc.) to the rotary switch number and add appropriate cost. Example: LSA1A-**1B** is a standard pretravel plug-in switch with fixed radius steel lever, roller mounted on the open side of the lever; List Price is $36.00 ($33.00 plus $3.00 for the lever).

M.S. No. LSZ5-	Description	Mounted Position	Roller, Inches Dia.	Roller, Inches W.	Material	List Price*
1A	Standard (1½" radius)	Open	¾	¼	Nylon	**$3.00**
1B		Open	¾	¼	Steel	**3.00**
1C		Closed	¾	¼	Nylon	**3.00**
1D		Closed	¾	¼	Steel	**3.00**
1L		Closed	¾	¼	Ball bearing	**7.00**
2C	Adj. Radius (1½–3½")	Closed	¾	¼	Nylon	**5.00**
2D		Closed	¾	¼	Steel	**5.00**
2J		Closed	1	½	Nylon	**7.00**
2K		Closed	1½	¼	Nylon	**7.00**
3E	Yoke (1½")	† Closed‡	¾	¼	Nylon	**5.00**
3S			¾	¼	Nylon	**5.00**
4M	5" Rod	.....	.....	.....	Aluminum	**5.00**
4N	12" Rod	.....	.....	.....	Steel (stainless)	**5.00**
4R	12" Rod	.....	.....	.....	Spring steel	**5.00**
5A	Offset (1½")	Open	¾	¼	Nylon	**5.00**
5C		Closed	¾	¼	Nylon	**5.00**

†One roller on each side (1 closed, 1 open). ‡Rollers on same side.

★WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH "LS" Limit Switches

A

Compact Type

B

C

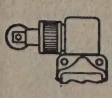
D

E

F

G

H



I

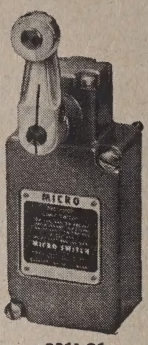
J

Available in two types, compact and plug-in. Feature small size, rugged construction and complete versatility. Accurate repeatability through millions of operations. Switches are field adjustable and components are interchangeable to minimize limit switch inventory. O-rings on the actuator shaft, between the head and housing and around the cover plate or mounting block protect all moving parts from oil, coolants, water, dust and chips. **Contact Arrangements:** Two-circuit double-break, except as indicated. **Temperature Range:** To 160° F; high temperature types to 250° F. **Terminals:** Screw, except where noted. LS compact limit switches are available in versions listed by UL, CSA and Coast Guard. Types data and pricing on request.

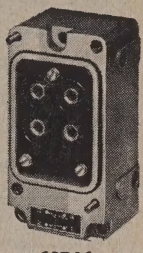
ELECTRICAL RATINGS†

Code	Amps at VAC 120	Amps at VDC 115	230	550	hp at VAC 120	240
A	10‡	0.8#	0.4	0.1	⅓	¾
B	10‡	.....	.....	.....	¼	½
C	10	.....	.....	.....	⅓	.....
D	10§	.....	.....	.....	.....	¾
G	10‡	0.8#	0.4#	0.1#	¼	½
H	10‡	.....	.....	.....	⅓	¾

‡At 120, 240, 480 VAC; 600 VAC max. pilot duty. §At 240 VAC. #Resistive.



201LS1



18PA1

Plug-In Type

ROTARY MOTION LEVER ACTUATOR—MOMENTARY CONTACT

ACTUATOR—¾" DIA. HARDENED STEEL ROLLER ON FORGED ALUMINUM ARM (FIG. A)

Compact Type M.S. No.	List*	Plug-In Type* M.S. No.	List*	Features	†	Maximum Oper. Force	Maximum Pre-travel	Min. Over-travel	Max. Diff. Travel
1LS1	$32.00	201LS1	$32.00	Standard, 20° pretravel	A	3 lb.	20°	30°	12°
1LS19	34.00	201LS19	34.00	Low, 5° pretravel	B	3 lb.	5°	30°	.....
1LS131	34.00	None	.....	Low force, 5° pretravel	B	18 oz.	5°	30°	.....
1LS501	37.40	201LS501	37.40	Light indicator, 120 VAC	C	3 lb.	20°	30°	12°
1LS501-A1	37.40	201LS501-A1	37.40	Light indicator, 240 VAC	D	3 lb.	20°	30°	12°
1LS6	32.00	201LS6	32.00	Low operating force	A	18 oz.	20°	30°	12°
7LS1	31.20	None	.....	Cavity mount 1LS1	A	3 lb.	20°	30°	12°

ACTUATOR—ADJUSTABLE LENGTH (1"-3½") ROLLER LEVER (FIG. B)

1LS3	$35.20	201LS3	$35.20	¾" nylon roller; reversible	A	3 lb.	20°	30°	12°
1LS58	37.20	None	.....	As above, 5° pretravel	B	3 lb.	5°	30°	.....
1LS59	37.20	None	.....	Low force, 5° pretravel	B	18 oz.	5°	30°	.....

ACTUATOR—ADJUSTABLE LENGTH ALUMINUM ROD (FIG. C)

1LS10	$34.00	201LS10	$34.00	5" aluminum rod	A	5 oz.	20°	30°	12°
1LS47	36.00	201LS47	36.00	As above, 5° pretravel	B	5 oz.	5°	30°	.....
1LS53	36.90	201LS51	36.00	Low force, 5° pretravel	B	3 oz.	5°	30°	.....

ROTARY MOTION LEVER ACTUATOR—MAINTAINED CONTACT

ACTUATOR—TWO STEEL ROLLERS ON FORKED ALUMINUM ARM (FIG. E)

6LS1	$40.00	206LS1	$38.00	Rollers on opposite sides	A	2 lb.	55°	35°	20°
6LS3	40.60	None	.....	Nylon rollers on same side	A	2 lb.	55°	35°	20°

PUSH MOTION PLUNGER ACTUATOR—MOMENTARY CONTACT

ACTUATOR—TOP STRAIGHT PLUNGER (FIG. F)

2LS1	$32.30	202LS1	$28.00	Std. inline motion actuator	A	7 lb.	.065"	.250"	.020"
2LS111	37.50	202LS111	33.20	Low force; plunger seal	H	36 oz.	.065"	.219"	.009"

ACTUATOR—ROLLER TOP PLUNGER (FIG. G)

5LS1	$34.40	205LS1	$32.00	Standard steel roller	A	7 lb.	.065"	.219"	.020"

ACTUATOR—SIDE STRAIGHT PLUNGER (FIG. H)

4LS1	$34.60	204LS1	$34.00	Inline motion actuation	A	9 lb.	.109"	.250"	.040"

ACTUATOR—SIDE ROLLER PLUNGER (FIG. I)

3LS1	$39.00	203SL1	$38.00	Steel roller	A	9 lb.	.109"	.219"	.040"

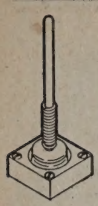
RANDOM MOTION SPRING OR WIRE ACTUATOR—MOMENTARY CONTACT (FIG. J)

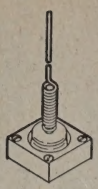
8LS1	$32.20	208LS1	$28.00	4½" flex. cad. plated cable actuator	G	5 oz.	.....	.....	.....
8LS3	32.20	208LS3	28.00	4½" spring/rod actuator, anodized aluminum	G	5 oz.	.....	.....	.....
8LS125	35.90	208LS125	31.70	6½" steel wire; low force, corrosion resistant	G	1 oz.	.....	.....	.....
8LS152	32.20	208LS152	28.00	Stainless steel coilspring	G	5 oz.	.....	.....	.....

*Plug-in type requires one terminal block (18PA1 for "200LS" switches, List Price **$8.00**). †Electrical rating from chart above.

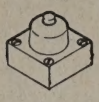
★WRITE OR CALL FOR DISCOUNT INFORMATION ON "LS" SWITCHES

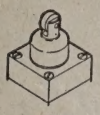
MICRO SWITCH "LS" SWITCHES WITH SPECIAL ACTUATORS

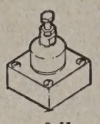

Plastic Rod


Spring Wire

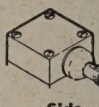
Cat Whisker


Top Plunger


Top Roller


Adj. Top

Side Plunger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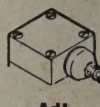

Adj. Side

Maintained

WOBBLE ACTUATED SWITCHES

Ratings and contacts same as rotary switches on preceding page. Cable (1.5″) and coil spring (2″) types also available.

WITH PLASTIC ROD ACTUATOR

Pretravel: 1″ max. **Operating Force:** 10 oz. max.

M.S. Number	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSJ1A-7A	SPDT	Plug-in	½″	None	$36.00
LSJ1E-7A	SPDT*	Plug-in	½″	None	38.00
LSJ5A-7A	SPDT†	Plug-in	½″	120 volt	42.00
LSJ8A-7A	SPDT†	Plug-in	½″	240 volt	42.00
LSJ3K-7A	SPDT	Non-plug-in	½″	None	32.00
LSJ2B-7A	DPDT	Plug-in	¾″	None	43.00
LSJ6B-7A	DPDT	Plug-in	½″	None	43.00
LSJ4L-7A	DPDT	Non-plug-in	¾″	None	38.00
LSJ7L-7A	DPDT	Non-plug-in	½″	None	38.00

WITH SPRING WIRE ACTUATOR

Pretravel: 4″ max. **Operating Force:** 5 oz.

LSJ1A-7M	SPDT	Plug-in	½″	None	$35.00
LSJ1E-7M	SPDT*	Plug-in	½″	None	37.00
LSJ5A-7M	SPDT†	Plug-in	½″	120 volt	41.00
LSJ8A-7M	SPDT†	Plug-in	½″	240 volt	41.00
LSJ3K-7M	SPDT	Non-plug-in	½″	None	31.00
LSJ2B-7M	DPDT	Plug-in	¾″	None	42.00
LSJ6B-7M	DPDT	Plug-in	½″	None	42.00
LSJ4L-7M	DPDT	Non-plug-in	¾″	None	37.00
LSJ7L-7M	DPDT	Non-plug-in	½″	None	37.00

WITH CAT WHISKER ACTUATOR

Pretravel: 2″ max. **Operating Force:** 5 oz. max.

LSK1A-8A	SPDT	Plug-in	½″	None	$33.00
LSK1E-8A	SPDT*	Plug-in	½″	None	35.00
LSK5A-8A	SPDT†	Plug-in	½″	120 volt	39.00
LSK8A-8A	SPDT†	Plug-in	½″	240 volt	39.00
LSK3K-8A	SPDT	Non-plug-in	½″	None	29.00
LSK2B-8A	DPDT	Plug-in	¾″	None	40.00
LSK6B-8A	DPDT	Plug-in	½″	None	40.00
LSK4L-8A	DPDT	Non-plug-in	¾″	None	35.00
LSK7L-8A	DPDT	Non-plug-in	½″	None	35.00

TOP PLUNGER ACTUATED MOMENTARY CONTACT SWITCHES

Assembled with roller parallel to mounting surface. For roller perpendicular to mounting surface, add suffix **6** to Micro Switch Number. Ratings and contacts same as rotary actuated types. **Pretravel:** .070″ max. **Differential Travel:** SPDT, .015″ max.; DPDT, .020″ max. **Overtravel:** .190″ min. **Oper. Force:** 4 lbs. max.

TOP PLAIN PLUNGER ACTUATOR

Operating point, 1.805″ (±.030″). Oiltight seals.

M.S. Number	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSC1A	SPDT	Plug-in	½″	None	$36.00
LSC1E	SPDT*	Plug-in	½″	None	38.00
LSC5A	SPDT†	Plug-in	½″	120 volt	42.00
LSC8A	SPDT†	Plug-in	½″	240 volt	42.00
LSC3K	SPDT	Non-plug-in	½″	None	32.00
LSC2B	DPDT	Plug-in	¾″	None	43.00
LSC6B	DPDT	Plug-in	½″	None	43.00
LSC4L	DPDT	Non-plug-in	¾″	None	38.00
LSC7L	DPDT	Non-plug-in	½″	None	38.00

TOP ROLLER PLUNGER ACTUATOR

Operating point, 2.200″ (±.040″). Roller adjusts to 90° angles.

LSD1A	SPDT	Plug-in	½″	None	$40.00
LSD1E	SPDT*	Plug-in	½″	None	42.00
LSD5A	SPDT†	Plug-in	½″	120 volt	46.00
LSD8A	SPDT†	Plug-in	½″	240 volt	46.00
LSD3K	SPDT	Non-plug-in	½″	None	36.00
LSD2B	DPDT	Plug-in	¾″	None	47.00
LSD6B	DPDT	Plug-in	½″	None	47.00
LSD4L	DPDT	Non-plug-in	¾″	None	42.00
LSD7L	DPDT	Non-plug-in	½″	None	42.00

ADJUSTABLE TOP PLUNGER ACTUATOR

Operating point adjusts from 2.085–2.335″.

LSV1A	SPDT	Plug-in	½″	None	$38.00
LSV1E	SPDT*	Plug-in	½″	None	40.00
LSV5A	SPDT†	Plug-in	½″	120 volt	44.00
LSV8A	SPDT†	Plug-in	½″	240 volt	44.00
LSV3K	SPDT	Non-plug-in	½″	None	34.00
LSV2B	DPDT	Plug-in	¾″	None	45.00
LSV6B	DPDT	Plug-in	½″	None	45.00
LSV4L	DPDT	Non-plug-in	¾″	None	40.00
LSV7L	DPDT	Non-plug-in	½″	None	40.00

SIDE PLUNGER ACTUATED MOMENTARY CONTACT SWITCHES

Assembled with plunger to front of switch. For plunger to right side, add suffix **3** to Micro Switch Number; for plunger to left side, add suffix **4**; for plunger toward back, add suffix **5**. Ratings and contacts same as rotary actuated switches. **Pretravel:** .100″ max. **Differential:** SPDT, .025″; DPDT, .035″ max. **Overtravel:** .190″ min. **Operating Force:** 6 lbs. max.

SIDE PLAIN PLUNGER

Operating point, 1.300″ (±.030″). Actuating head may be faced in any of four positions, 90° apart. Boot and gasket seals.

M.S. Number	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSE1A	SPDT	Plug-in	½″	None	$38.00
LSE1E	SPDT*	Plug-in	½″	None	40.00
LSE5A	SPDT†	Plug-in	½″	120 volt	44.00
LSE8A	SPDT†	Plug-in	½″	240 volt	44.00
LSE3K	SPDT	Non-plug-in	½″	None	34.00
LSE2B	DPDT	Plug-in	¾″	None	45.00
LSE6B	DPDT	Plug-in	½″	None	45.00
LSE4L	DPDT	Non-plug-in	¾″	None	40.00
LSE7L	DPDT	Non-plug-in	½″	None	40.00

SIDE ROLLER PLUNGER

Operating point, 1.735″ (±.040″). Head may be faced in any of four positions, 90° apart. Roller turns vertical or horizontal.

LSF1A	SPDT	Plug-in	½″	None	$42.00
LSF1E	SPDT*	Plug-in	½″	None	44.00
LSF5A	SPDT†	Plug-in	½″	120 volt	48.00
LSF8A	SPDT†	Plug-in	½″	240 volt	48.00
LSF3K	SPDT	Non-plug-in	½″	None	38.00
LSF2B	DPDT	Plug-in	¾″	None	49.00
LSF6B	DPDT	Plug-in	½″	None	49.00
LSF4L	DPDT	Non-plug-in	¾″	None	44.00
LSF7L	DPDT	Non-plug-in	½″	None	44.00

ADJUSTABLE SIDE PLUNGER

Operating point adjusts from 1.615″ to 1.865″.

LSW1A	SPDT	Plug-in	½″	None	$40.00
LSW1E	SPDT*	Plug-in	½″	None	42.00
LSW5A	SPDT†	Plug-in	½″	120 volt	46.00
LSW8A	SPDT†	Plug-in	½″	240 volt	46.00
LSW3K	SPDT	Non-plug-in	½″	None	36.00
LSW2B	DPDT	Plug-in	¾″	None	47.00
LSW6B	DPDT	Plug-in	½″	None	47.00
LSW4L	DPDT	Non-plug-in	¾″	None	42.00
LSW7L	DPDT	Non-plug-in	½″	None	42.00

MAINTAINED CONTACT SWITCHES WITH SIDE PLAIN PLUNGER

Available with same head options as momentary contact types. **Pretravel:** .170″ max. **Differential:** .090″ max. **Overtravel:** .080″ min. **Oper. Force:** 10 lbs. max. **Oper. Point:** 1.480″ (±.030″).

LSG1A	SPDT	Plug-in	½″	None	$44.00
LSG1E	SPDT*	Plug-in	½″	None	46.00
LSG5A	SPDT†	Plug-in	½″	120 volt	50.00
LSG8A	SPDT†	Plug-in	½″	240 volt	50.00
LSG3K	SPDT	Non-plug-in	½″	None	40.00
LSG2B	DPDT	Plug-in	¾″	None	51.00
LSG6B	DPDT	Plug-in	½″	None	51.00
LSG4L	DPDT	Non-plug-in	¾″	None	46.00
LSG7L	DPDT	Non-plug-in	½″	None	46.00

SPECIAL SIDE ROTARY SWITCHES

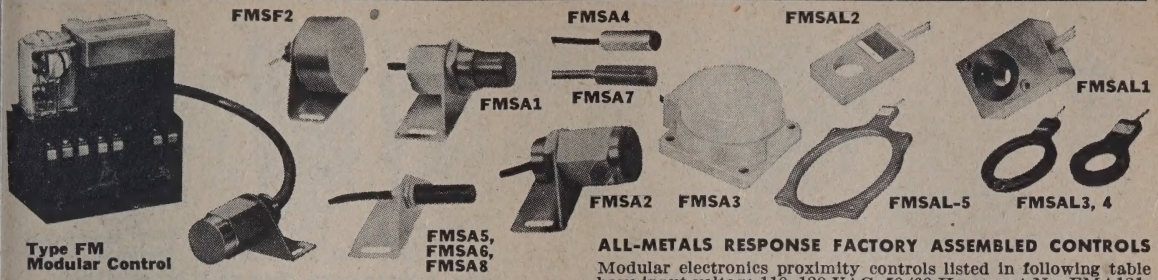
Type LSM Center Neutral: Pole 1 operates counter-clockwise, pole 2 clockwise. SPDT double break contacts in each direction. Ratings same as standard DPDT types. Pretravel, 22° max. Differential, 10° max. Overtravel, 53° min. Operating torque, 4 in.-lbs. max. **Type LSL Sequential:** Pole 1 operates first, pole 2 operates second; either clockwise or counter-clockwise, or both. Two SPDT double break contacts with 8° between operation. Ratings same as standard DPDT types. Pretravel, 1st pole 15° max., 2nd pole 10° max. Differential, 5° for each pole. Overtravel, 48° min. Operating torque, 4 in.-lbs. max.

Body Style	Conduit	Center Neutral		Sequential	
		M.S. No.	List*	M.S. No.	List*
Plug-in	¾″	LSM2D	$42.00	LSL2C	$46.00
Plug-in	½″	LSM6D	42.00	LSL6C	46.00
Non-plug-in	¾″	LSM4N	37.00	LSL4M	41.00
Non-plug-in	½″	LSM7N	37.00	LSL7M	41.00

*Gold plated contacts for low-energy circuits. Electronic duty rated 5 VAC or VDC, .01 amp, recommended minimum load. May also be used at same electrical ratings shown for SPDT type switches listed on preceding page. †Use at voltage indicated for light; upper operating temperature limit for lighted units is 200° F.

★WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Proximity Switches



PROXIMITY CONTROLS

The proximity controls on these pages represent the modern approach to detecting metal objects without contacting them. Three basic proximity concepts are offered—modular electronic controls, self-contained solid state switches, and reed/magnetic operated switches. Each has its own unique advantages. Modular electronic proximity controls consist of a sensor, a control base (amplifier, power supply and function circuit) and an output relay. They offer the greatest versatility, including sensitivity to ferrous metals only or all-metals and a variety of control logics. Self-contained proximity switches contain in one small housing all of the circuitry needed to respond to any metal and produce a usable output signal. They are particularly useful as inputs into solid state logic systems. Reed proximity switches are operated by the influence of a magnetic field either by moving a magnet close to the reed switch or by moving a ferrous metal into the magnetic field to bias its magnetic influence on the reed switch contacts.

MODULAR ELECTRONIC PROXIMITY CONTROLS

Series FM all-metals responsive and ferromagnetic metals responsive modular proximity controls have all solid state circuitry. Amplifier, power supply and a wide range of function circuits are on plug-in circuit cards. Plug-in output modules provide a variety of output contact forms. Range of function circuits include time delays, AND and OR logic, decade counters, and speed control. Sensors available are loop design, high temperature, steel clad for rugged applications, small sizes for limited access areas, and full-threaded sensors for bushing mounting. Sensitivity adjustment and target-in-range lamp provided for installation purposes. Also have output condition indicator lamps as well as adjustment controls for setting time cycles, speed rates, etc.

FERROMAGNETIC RESPONSE FACTORY ASSEMBLED CONTROLS

Ferromagnetic responsive factory assembled modular controls listed in the following table have input voltage of 110–120 VAC, 50/60 Hz, except No. FMF121-AV, 220–240 VAC, 50/60 Hz. Micro Switch Nos. FMF111-CV and FMF112K1-VC are SPST NO reed relays; No. FMV011F1, 28 VDC nom., balance are DPDT. Temperature range, −40° F to +150° F. Sensors must be ordered separately to complete the control; housings also available.

Micro Switch Number	Function	Response Time Operating	Response Time Release	List Price
FMF111-AV	Gen. purpose	44 ms	57 ms	$112.35
FMV011F1	Gen. purpose	33 ms	34 ms	100.50
FMF121-AV	Gen. purpose	44 ms	57 ms	116.70
FMF111F1-AA†	Double gen. purp.	44 ms	57 ms	174.50
FMF111T2-VA	ON delay	.6–15 sec	.....	158.20
FMF112T5-VA	OFF delay*	.6–15 sec	.....	180.40
FMF112T7-VA	OF/OFF delay*	.03–.7 sec	.....	196.55
FMF112T8-VA	ON/OFF delay*	.6–15 sec	.....	196.70
FMF111L5-VA†	AND logic	44 ms	57 ms	162.55
FMF111L6-VA†	OR logic	44 ms	57 ms	162.60
FMF111-CV FMF112K1-VC	Counter control Decade counter control*	900 input pulses per minute		107.00 214.10
FMF111U1-VA	Over or under speed detector	60–900 input pulses per min.		189.20

*With deluxe power supply. †2 sensors; all others, 1 sensor.

FERROMAGNETIC RESPONSIVE SENSORS

Ferromagnetic responsive sensors must be ordered separately to complete the proximity control. Sensors use 18 AWG stranded leads.

Micro Switch Number	Std. Lead Lgth.	Sensitivity	Ambient Temperature Range	List Price
FMSF1-6	6 ft.	.500″*	−40° F to +185° F	$ 54.90
FMSF1-25	25 ft.	.500″*	−40° F to +185° F	64.70
FMSF1-50	50 ft.	.500″*	−40° F to +185° F	77.40
FMSF3-6	6 ft.	.500″*	0° F to +430° F	73.90
FMSF3-25	25 ft.	.500″*	0° F to +430° F	84.40
FMSF3-50	50 ft.	.500″*	0° F to +430° F	98.50
FMSF2-6	6 ft.	1.500″†	−40° F to +185° F	74.50
FMSF2-25	25 ft.	1.500″†	−40° F to +185° F	84.55
FMSF2-50	50 ft.	1.500″†	−40° F to +185° F	97.20
FMSF4-6	6 ft.	1.500″†	0° F to +430° F	132.25
FMSF4-25	25 ft.	1.500″†	0° F to +430° F	142.85
FMSF4-50	50 ft.	1.500″†	0° F to +430° F	156.85

*Sensitivity to 2″ x 2″ x 0.5″, 1018 steel target. †Sensitivity to 5″ x 5″ x 0.062″, 1018 steel target.

ALL-METALS RESPONSE FACTORY ASSEMBLED CONTROLS

Modular electronics proximity controls listed in following table have input voltage 110–120 VAC, 50/60 Hz, except No. FMA121-AV, 220–240 VAC, 50/60 Hz. Micro Switch Nos. FMA111-CV and FMA112K1-VC are SPST NO reed relays; No. FMV011A1, 28 VDC nom., balance are DPDT relays. Temp. range, −40° F to +150° F. Sensors must be ordered to complete the control.

Micro Switch Number	Function	Response Time Operating	Response Time Release	List Price
FMA111-AV	Gen. purpose	16 ms	30 ms	$104.20
FMV011-A1	Gen. purpose	4 ms	8 ms	92.90
FMA121-AV	Gen. purpose	16 ms	30 ms	108.40
FMA111A1-AA†	Double gen. purp.	16 ms	30 ms	160.55
FMA111T2-VA	ON delay	.6–15 sec	.....	147.85
FMA112T5-VA	OFF delay*	.6–15 sec	.....	168.95
FMA112T7-VA	ON/OFF delay*	.03–.7 sec	.....	184.45
FMA112T8-VA	ON/OFF delay*	.6–15 sec	.....	184.45
FMA111L3-VA†	AND logic	16 ms	30 ms	149.20
FMA111L4-VA†	OR logic	16 ms	30 ms	149.20
FMA111-CV FMA112K1-VC	Counter control Decade counter control*	15,000 input pulses per minute		125.30 211.25
FMA111U1-VA	Over or under speed detector	60–2000 input pulses per min.		177.40

*With deluxe power supply. †2 sensors; all others, 1 sensor.

ALL-METALS RESPONSIVE SENSORS

All-metals responsive sensors must be ordered separately to complete the proximity control. Sensors use Type RG-58 C/U 50 ohm coaxial cable.

Micro Switch Number	Standard Lead Lgth.	Sensitivity to 2″ x 2″ x ½″‡ With Amplifier FMA1 or FMA3. Max. Temp. Range, −40° F to +185° F	Sensitivity to 2″ x 2″ x ½″‡ With Amplifier FMA2. Max. Temp. Range, +32° F to +120° F	List Price
FMSA1-6*	6 ft.	.500″	.750″	$34.50
FMSA1-25*	25 ft.	.500″	.750″	40.15
FMSA1-50*	50 ft.	.500″	.750″	49.95
FMSB1-6†	6 ft.	.500″	.750″	45.70
FMSB1-25†	25 ft.	.500″	.750″	51.35
FMSB1-50†	50 ft.	.500″	.750″	61.20
FMSA2-6*	6 ft.	.700″	1.000″	27.45
FMSA2-25*	25 ft.	.700″	1.000″	33.05
FMSA2-50*	50 ft.	.700″	1.000″	42.90
FMSB2-6†	6 ft.	.700″	1.000″	37.95
FMSB2-25†	25 ft.	.700″	1.000″	43.60
FMSB2-50†	50 ft.	.700″	1.000″	53.50
FMSA3-6	6 ft.	1.500″	2.00″	50.70
FMSA3-25	25 ft.	1.500″	2.00″	56.30
FMSA3-50	50 ft.	1.500″	2.00″	66.20
FMSA4-6	6 ft.	.350″	.450″	22.50
FMSA5-6	6 ft.	.350″	.450″	25.35
FMSA5-25	25 ft.	.350″	.450″	30.95
FMSA5-50	50 ft.	.350″	.450″	40.85
FMSA6-6	6 ft.	.190″	.....	29.55
FMSA6-25	25 ft.	.190″	.....	35.20
FMSA6-50	50 ft.	.190″	.....	45.10
FMSA7-6	6 ft.	.160″	.....	33.05
FMSA8-6	6 ft.	.110″	.....	40.85

*Cadmium plated steel. †Stainless steel. ‡No. 1018 steel target, except FMSA3 sensor, 5″ x 5″ x .062″ steel target.

ALL-METALS RESPONSIVE LOOP SENSORS

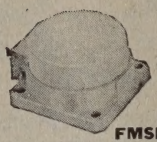
For use with FM all-metals responsive controls to detect small ferrous and non-ferrous metals. Totally enclosed units operate at very high speed, responding to signals as short as a few milliseconds. Metallic objects need only have one dimension at least 20% of the inside diameter to operate. Standard lead lengths are 6 ft., 25 ft. and 50 ft. Sensors temp. range is +32° F to +185° F. **Sizes:** FMSAL1, 1.250″ w. x 1.875″ long; FMSAL2, 1.375″ w. x 2.250″ long; FMSAL3, 1.500″ inner dia., 2.750″ outer dia., x 4.250″ long. FMSAL4, 3.000″ inner dia. x 4.250″ outer dia. x 5.625″ long. FMSAL5, 6.000″ inner dia. x 9.000″ long.

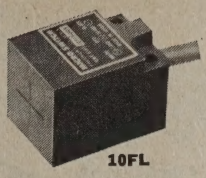
Micro Switch Number*	Loop I.D.	Min. Size Piece (Pass Through Detection)†	Sensor Isolation	List Price
FMSAL1-6	0.40″	.250″ x .75″	5X loop I.D.	$46.10
FMSAL2-6	0.75″‡	5/16″ x ½″	4X loop I.D.	46.10
FMSAL3-6	1.50″	.375″ x .75″	3X loop I.D.	46.10
FMSAL4-6	3.00″	.650″ x 1.5″	3X loop I.D.	46.10
FMSAL5-6	6.00″	1.5″ x 3.0″	2X loop I.D.	49.90

*Sensors listed have 6 ft. lead lengths; for 25 ft., change suffix to **25**, e.g., FMSAL1-**25** and add **$5.60** to price; for 50 ft., change suffix to **50** and add **$15.50** to price. †4″ free-fall drop. ‡Hexhead screws; all others CRS bar stock.

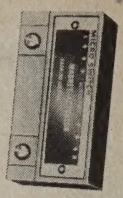
MICRO SWITCH Proximity Switches

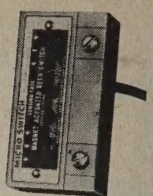
FMSD1, FMSD2

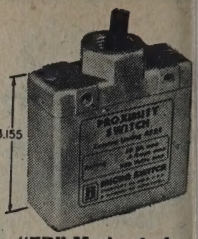

FMSD3


10FL

1FL5002


Magnet Actuator 21FR1-B


Magnet-Actuated Reed Switch



"FR" Mechanical Proximity Switch

CIRCUIT CARD RACKS FOR FM SERIES CONTROLS

Series FME circuit card mounting racks designed especially for use with Micro Switch FM proximity controls. Mounting several circuit cards in a single rack cuts down on panel space, eliminates FM control bases and power supplies and simplifies inspection and servicing. All circuit card terminals are accessible for inter-wiring between controls. Ideal for applications where many controls are located in the same area, where panel space is limited, and where other solid state logic functions are present. Racks are completely assembled with card-edge connectors and guides, eliminating time-consuming assembly, and the need to order separate components from various suppliers. Open construction allows flow-through air circulation, permitting higher ambient operating temperatures. Racks are stocked in three standard sizes to accommodate 4, 8, or 12 circuit cards. Circuit cards and circuit card racks are ordered separately. All FM circuit cards, logic cards, power supply cards, and relay output cards are suitable for rack mounting. All mounting rack components conform to MIL specs.

	FMA Amplifiers	FMF Amplifiers	Function Cards
Supply Voltage:	24 ±4 VDC	24 ±4 VDC & 20 ±4 VAC	24 ±4 VDC
Ripple:	5% maximum	5% maximum	5% maximum
Burden Cards			
w/Ind. Light	60 mA, max.	60 mA, max.	60 mA, max.
w/o Ind. Light	20 mA, max.	20 mA, max.	20 mA, max.
Temperature Range (° F)			
w/Ind. Light	−40 to +170	−40 to +170	−40 to +170
w/o Ind. Light	−40 to +185	−40 to +185	−40 to +185
Output Rating:	200 mA, max.	200 mA, max.	200 mA, max.
Voltage Load:			
500 ohms	27 VDC	27 VDC	27 VDC
1000 ohms	28 VDC	28 VDC	28 VDC
2000 ohms	29 VDC	29 VDC	29 VDC

Micro Switch No.	Card Capacity	Size	List Price
FME1001	4	4.86″ w. x 4.51″ d. x 4.0″ h.	**$60.20**
FME1002	8	7.26″ w. x 4.51″ d. x 4.0″ h.	**72.95**
FME1003	12	9.66″ w. x 4.51″ d. x 4.0″ h.	**85.80**

TYPE FM PROXIMITY DOUBLE THICKNESS SOLID STATE DETECTOR

Double thickness detectors ideal for monitoring metal strips and sheets in processing equipment. Will not interrupt flow of single thicknesses of aluminum or steel, but multiple thicknesses will trigger the FMD control to operate ejection or shut down mechanisms. Features modular construction, standard plug-in relays, sealed sensors, wide temperature range, compact solid state design. Applications include double thickness detection on shears, presses, slitters. **Sealing of Sensors:** Meets NEMA 1, 2 and 12. **Shielding:** Sensors are insensitive to metals on sides or in back. **Leads:** 300 feet, max. **Temperature Range:** Sensors, −40° F to +185° F; All controls, +32° F to +150° F. FMSD1 and FMSD2 single sensors are supplied with a 2 inch dia. by ¼ inch thick ferrite plug. Two opposing sensors are required for applications using the FMSD3 sensors. **Sizes:** FMSD1, FMSD2 Sensors, 2.500″ w. x 2.925″ d. x 1.875″ h., including bracket; FMSD3, 3.250″ w. x 3.795″ d. x 1.360″ h.

RECOMMENDED MATERIAL THICKNESS RANGE

Amplifier	Sensor	Target Material	Target Thickness	Target Width
FMD1	FMSD1	5052-H34 aluminum	.004″ to .030″	1″ to 12″
FMD1	FMSD2	1008 steel	.004″ to .030″	1″ to 12″
FMD2	FMSD3	1008 steel	.004″ to .080″	10″ min.
		5052-H34 aluminum	.004″ to .025″	10″ min.

Micro Switch Number	Description	Lead Length, Feet	List Price
FMSD1-6	Sensor	6	**$ 85.20**
FMSD1-25	Sensor	25	**90.80**
FMSD1-50	Sensor	50	**100.70**
FMSD2-6	Sensor	6	**85.15**
FMSD2-25	Sensor	25	**90.80**
FMSD2-50	Sensor	50	**100.70**
FMSD3-6	Sensor	6	**66.55**
FMSD3-25	Sensor	25	**72.15**
FMSD3-50	Sensor	50	**82.05**
FMD1	Amplifier		**76.80**
FMD2	Amplifier		**76.80**
FMSZ01	Brackets for FMSD1, FMSD2		**.69**
FMSZ10	Bracket for FMSD3		**2.55**
FMC58	Cover*		**7.00**

*When ordering FMD2 amplifier cards separately, a FMC58 cover must also be ordered.

SELF-CONTAINED PROXIMITY SWITCH

Series 10FL compact, self-contained proximity switches have solid state circuitry, are completely epoxy sealed in a plastic housing and are all-metal sensitive. Available with choice of input voltages, 12 VDC and 24 VDC. **Sensitivity:** .435″ ±.043″ at 75° F. **Differential:** .025″ ±.015″. **Response Time:** "On", .25 msec; "Off", .25 msec. **Rate of Operation:** 2000 operations per second, max. **Temperature Range:** +15° F to +140° F. Provides circuit protection against reverse supply voltage, inductive voltage spikes, and transient voltages on DC supply. Three color-coded lead wires have wire ends stripped and tinned. Mounting holes accept up to #10 screws. **Size:** 1.40″ w. x 1.40″ d. x 1.98″ h.

M. S. No.	Description	List Price
10FL5004	12 VDC input unit with 39″ cable	**$51.85**
10FL5005	24 VDC input unit with 39″ cable	**51.85**

POWER-SUPPLY FOR SERIES 10FL SWITCH

Plug-in power supply with relay for self-contained proximity switch No. 10FL5005. Includes output status indicator light. **Input Voltage:** 120 VAC ±15%, 50/60 Hz. **Output Voltage:** 24 VDC ±15% within 120 VAC. **Relay:** 5 A max., 120 VAC, resistive rating; 2 A max., 120 VAC, inductive rating.

1FL5002	Plug-in power supply for Series 10FL switch	**$58.40**
1FH1	Auxiliary socket for plug-in power supply	**2.10**

TWO-PIECE MAGNET ACTUATED REED SWITCHES

Fully enclosed reed proximity switch and matching permanent magnet actuator comprise a rugged, highly reliable switch system. Operation is by magnetic actuation. Modes of operation are short axis slide-by or head-on movement of the magnet in respect to the switch unit. Compatible with solid state logic level input requirements. The 20FR1, 20FR2, 20FR5 and 20FR6 switches are for use in 9 mA range; 20FR3 and 20FR4 contain a reed switch with an electrical rating to 15 amperes inrush. Meet portions of NEMA enclosure Type 1, General Purpose; Type 2, Driptight; Type 3, Weather Resistant; and Type 12, Industrial Use. Available with wire leads or heavy-duty cable. **Recommended Temperature Range:** −20° F to +200° F. **Size:** Switch, 4.25″ w. x 2.19″ d.; magnet, 4.25″ w. x 2.19″ d. Mounting brackets supplied.

Micro Switch Number	Sensitivity, Inches Head-On Mode at +75° F			Electrical Life, Operations at Rated Load
	Operate	Release	Diff.	
20FR1, 20FR2, 20FR5, 20FR6	2.4″	3.0″	0.6″	10,000,000
20FR3, 20FR4	0.9″	1.6″	0.7″	500,000

M.S. No. Wire Leads*	List Price	M.S. No. Heavy-Duty Cable†	List Price	Max. Volts VDC	Circuit	Lead Lgth., Feet
20FR1-6B	**$19.30**	**20FR2-6B**	**$25.05**	400	NO	6
20FR3-6B	**30.75**	**20FR4-6B**	**28.65**	250	NO	6
20FR5-6B	**24.40**	**20FR6-6B**	**30.05**	500	NC	6
20FR1-25B	**24.35**	**20FR2-25B**	**37.45**	400	NO	25
20FR3-25B	**35.75**	**20FR4-25B**	**48.85**	250	NO	25
20FR5-25B	**29.30**	**20FR6-25B**	**42.45**	500	NC	25
20FR1-50B	**29.95**	**20FR2-50B**	**50.50**	400	NO	50
20FR3-50B	**41.55**	**20FR4-50B**	**63.10**	250	NO	50
20FR5-50B	**35.05**	**20FR6-50B**	**55.45**	500	NC	50
		21FR1-B	**12.75**	Magnet		

*Wire leads are two single 16-gauge stranded copper wire leads with PVC insulation. †Heavy-duty cable is twin 16-gauge stranded copper conductor with heavy-duty Type SO neoprene jacket resistant to oil, moisture, sunlight, abrasion and aging.

ONE-PIECE FERROMAGNETIC ACTUATED REED SWITCHES

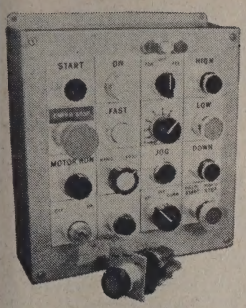
Types 4FR and 6FR proximity switches are single-pole, single-throw normally-open devices designed to directly drive low energy circuits. Used in applications where there is a moving ferro-magnetic metal target regardless of its direction of approach or motion which carries it into the detecting range—linear, rotary or reciprocating. Has internal dry reed switch, completely potted enclosure, hermetically sealed contacts, standard ½″ conduit outlet. Provides detection without touching, billion operation mechanical life. **Response Time:** 1 msec. **Repeatability:** 0.005″ with constant actuator path and at stabilized temp. **Power Rating:** 15 VAC, 1.0 amp, 280 V rms; 15 watts DC, 1.0 amp, 400 V. **Temperature Range:** −20° F to +150° F. **Size:** 3.187″ w. x 1.224″ d. x 3.660″ h. Available with wire leads or heavy-duty cable.

M.S. No. Wire Leads	List Price	M.S. No. Heavy-Duty Cable	List Price	Sensitivity*	Lead Lgth. Feet
4FR1-6	**$51.90**	**4FR2-6**	**$57.60**	½″	6
4FR1-25	**56.90**	**4FR2-25**	**70.55**	½″	25
4FR1-50	**62.65**	**4FR2-50**	**87.05**	½″	50
6FR1-6	**57.25**	**6FR2-6**	**63.00**	¾″	6
6FR1-25	**62.35**	**6FR2-25**	**75.95**	¾″	25
6FR1-50	**68.05**	**6FR2-50**	**92.35**	¾″	50

*Nominal for low carbon steel, size 1″ x 3″ x ¼″.

MICRO SWITCH MANUAL INDUSTRIAL CONTROL DEVICES

TYPE PT HEAVY DUTY, OIL-TIGHT PUSHBUTTONS



Enhance Your Control Panels With This New Line of Heavy Duty, Oil-Tight Pushbuttons

Micro Switch's new Type PT devices can be employed in a broad range of control applications where rapid operator identification of the control is necessary, where oil splash will be encountered, and where heavy duty (high inrush or reactive) loads are being driven.

The following **UNLIGHTED** Type PT devices are available: Pushbuttons, Selectors, Selector-Push units, and Potentiometers. These devices provide you with the maximum control value for the lowest price and are principally used where feedback sounds or machinery operations can be directly observed by an operator.

When indication from remote operations is required, Type PT **LIGHTED** devices are also offered in Indicators, Push-to-Test Indicators, lighted Pushbuttons, and lighted Push-Pull units.

Here are a few outstanding features of these rugged, attractively styled and easy-to-use units.

Modern Square Legend Plates are provided in 1⅞″ or 2¼″ size. Square shape uses only space otherwise necessary behind the panel for electrical clearances. Square shape blends with other panel instruments such as timers, recorders, meters, etc.

Large, Easy-to-Read Legends—Larger legend plate size along with its square shape permits larger legending for ease of operator identification even at a distance away from the panel. High contrast between letters and legend plate background is provided on these legend plates.

Oil-Tight Shaft and Panel Seals are Buna N elastomers for long-life oil-tight sealing. Keeps cutting oils, lubricants, petroleum hydraulic fluids, alcoholic solvents, and other liquids from entering through the device or enclosure hole and away from the contact blocks. Devices are built for use with NEMA 1 and 12 enclosures.

Interchangeable Lenses, Buttons and Knobs—Actuators are color-coded and interchangeable before or after installation. Buttons snap fit and are screw-driver removable. Lenses screw on for easy lamp replacement. Knobs and wing levers screw on for style and color interchangeability. Mushroom head buttons and Selector-Push collars are held in place with Allen head set screws.

Universal Mounting Diecast Bushing fits commercially available enclosure cutouts. Seals on bushing are large enough to permit oil-tight sealing even when dowel pin knockouts on your panels have been removed. Sturdy diecast bushing is protected with chrome-nickel-copper plating.

CONTACT US FOR CATALOG INFORMATION AND PRICES ON MICRO SWITCH TYPE PT PUSHBUTTONS

Complete Circuit Flexibility—Ten different heavy duty and six different electronic duty contact blocks permit easy adaptation from one to 16 heavy duty circuits per operator (up to 32 electronic duty). Circuit flexibility eliminates units equipped with unused contacts.

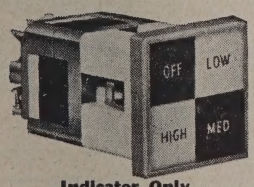
Tandem Mounting of Contact Blocks permits any combination of heavy or electronic duty contact blocks, generally with up to four blocks per operator. Tandem mounting lets you tailor operators to exact circuit requirements and add circuits easily after installation.

Contact Blocks for Dry Circuit to Heavy Duty Loads—Heavy duty contact blocks are built to handle high AC inrush currents and high DC inductive break voltages. For low energy applications, electronic duty contact blocks are also offered (with mechanical wiping action): choice of sliding silver contacts for instrumentation type loads, and sliding gold contacts for dry circuit control.

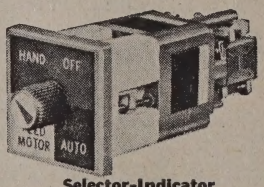
Heavy Duty, Easy-to-Wire Contact Block Terminals—Heavy duty contact block terminals are angled to permit easy access to terminal screw by screwdriver. Terminal screw contains clamping pressure plate which lifts away from a stationary U-bracket. The U-bracket and pressure plate will securely hold a single wire from No. 16 to No. 12 size, stranded or solid, as well as any two wires of same or adjacent sizes. Electronic duty contact blocks have combination solder and 0.187″ width quick-connect terminals.

Easy-to-See Terminal Designations—All contact block terminals are numbered adjacent to the terminal for easy polarity reference and easy cross-reference when wires are numbered. Heavy duty contact blocks also identify the NC or NO terminals for each circuit. To help the installer, heavy duty NC terminals are colored silver, and NO terminals are colored gold.

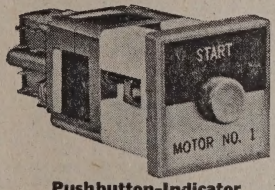
COORDINATED MANUAL CONTROL DEVICES



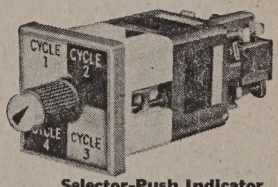
Indicator Only



Selector-Indicator



Pushbutton-Indicator



Selector-Push Indicator

The Coordinated Manual Control Devices are multi-light, oiltight controls offering unexcelled flexibility in panel indication and control. An indicator unit and three operator-indicator units cover various functional requirements. The indicator module provides a lighted color coded display only. The three types of operator models are pushbutton, selector, and selector-push, all with lighted color coded display. Various control legends and five color inserts to choose from with each unit. Contact Blocks attach to operator housings.

Square Shape—Distinctive 2¼″ square shape for diagonal or square mounting; provides the most legend area for panel space.

Oiltight Construction—Both cover plate and actuator have oiltight seals that prevent entrance of oil, coolants, water.

Indication—Display is divided into four equal areas, with individually controlled lamps. Each lamp can be lighted with its own 120 or 240 VAC transformer, direct low-voltage wiring, or 48 VAC/VDC resistor.

Legends—Over 300 standard industrial legend plates available, with 1 to 4 words. Blank and custom legends also available.

Color—Each quarter of display area can be color-coded in red, yellow, green, blue, white or amber in any combination.

Lighted Indicator Pointer—Selector and Selector-Push units feature reflectively illuminated pointer.

Pushbutton Unit—Controls up to 16 heavy-duty circuits (32 electronic or dry circuits). Minimum distance between pushbuttons is 1⅝″.

Selector Unit—Choice of 2, 3 or 4-position. Circuits controlled selectively for maintained action. Sure-grip knurled knob.

Selector-Push Unit—Pushbutton operation for circuit control.

Contact Blocks—Choice of heavy duty or electronic duty blocks, with up to 8 circuits. Up to four contact blocks can be mounted on a single unit.

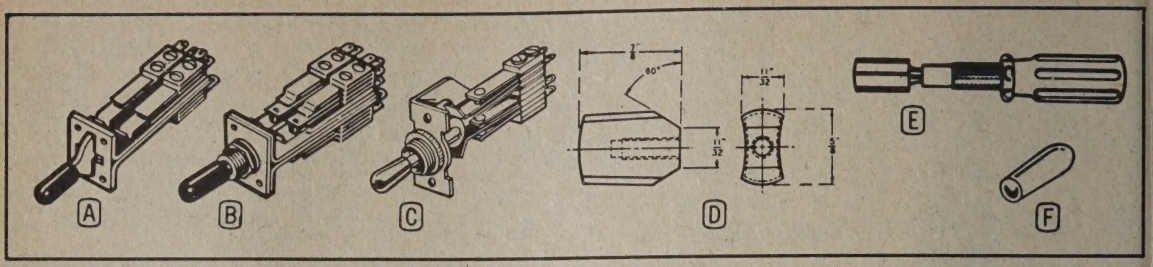
Four-Plunger Actuation—Permits four separate sequences of action to contact blocks on a single unit.

Terminals—Lamp and heavy duty contact block terminals designed for bare wire, quick-connectors, spade lugs, or solder connections. Electronic duty contact blocks have solder quick-connect terminals.

Fast Mounting—Four lugs for one-man, front-of-panel mounting in panels from 1/16″ to ¾″ thick.

WRITE OR CALL FOR COMPLETE CATALOG INFORMATION AND PRICES ON COORDINATED MANUAL CONTROL DEVICES

SWITCHCRAFT® INC. Lever Switches



"TELEVER" SWITCHES

(A)(B) Telephone type lever switches. Feature relatively light but rugged "T-Beam" frame construction. Available in two and three positions, locking and non-locking types. With black knob. Nylon rollers provide smooth action; assure long dependable spring life. Welded cross bar palladium contacts rated 3 amps, 300 watts, max., AC, non-inductive load. **Series 6000 (Fig. A)** mounts with four #3-48 machine screws in panels up to ¼" thick. Mounting centers, 1⅞" x 1⅜". **Series 16000 (Fig. B)** single ⅛" dia. hole mounting in panels up to ¼" thick with 15/32"-32 threaded bushing. Can be converted to locking type by removing "Stop Plate". **Part No. 530 Escutcheon Plate** for Series 6000 has four mounting screws. **Part No. 540 Stop Plate** converts Series 16000 from locking to non-locking or momentary action. **Part No. 545 Stop Plate** converts Series 16000 from three-position to two-position. Both stop plates can be changed in the field with two mounting screws supplied.

TWO-POSITION TYPES

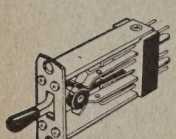
Part No.*	Schematic Cir. Pos. 1	Pos. 2	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
6006	2 "C"		DPDT	$4.41	$4.043	$3.675	$2.94
60012	4 "C"		4PDT	5.88	5.39	4.90	3.92
60024	8 "C"		8PDT	.....	.....	.....	.....
16006	2 "C"		DPDT	4.59	4.208	3.825	3.06
16008	4 "A"		4PST-NO	5.16	4.73	4.30	3.44
16009	3 "C"		3PDT	5.52	5.06	4.60	3.68
160012	4 "C"		4PDT	.....	.....	.....	.....
160012D	4 "D"		4PDT	.....	.....	.....	.....
160024	8 "C"		8PDT	9.18	8.415	7.65	6.12

THREE-POSITION TYPES†

6036	1 "C"	1 "C"	SPDT	$4.41	$4.043	$3.675	$2.94
60312	2 "C"	2 "C"	DPDT	.....	.....	.....	.....
60312D	2 "D"	2 "D"	DPDT	.....	.....	.....	.....
60316	4 "A"	4 "A"	4PST-NO	.....	.....	.....	.....
60324	4 "C"	4 "C"	4PDT	8.97	8.223	7.475	5.98
16036	1 "C"	1 "C"	SPDT	4.59	4.208	3.825	3.06
16038	2 "A"	2 "A"	DPST-NO	5.16	4.73	4.30	3.44
160312	2 "C"	2 "C"	DPDT	6.27	5.748	5.225	4.18
160312D	2 "D"	2 "D"	DPDT	6.90	6.325	5.75	4.60
160316	4 "A"	4 "A"	4PST-NO	8.10	7.425	6.75	5.40
160324	4 "C"	4 "C"	4PDT	9.18	8.415	7.65	6.12
530	Escutcheon plate			.69	.633	.575	.46
540	Stop plate			.24	.22	.20	.16
545	Stop plate			.24	.22	.20	.16

*Add suffix **L** to number (i.e., 6006**L**) for locking type; same price.
†Action shown is per section.

"LO-CAP" SWITCHES



Low-capacity lever actuated switches (previously referred to as Federal Anti-Capacity switches). Specially designed flat actuator springs and round contact springs are wide spaced in a large molded insulating block. This construction eliminates the build-up of induced alternating current between springs. Rugged "U" shaped aluminum frame. Roller actuation for easy lever operation. Available in 2 and 3 position models, locking and non-locking types. Actuator springs have fine silver contacts rated at 1 amp, 100 watts, max., AC, non-inductive load. Supplied with polished chrome escutcheon plate. Mounts with two 6-32 flat head screws (not supplied). Mounting centers, 1 13/16". Depth behind panel, 3 1/16".

TWO-POSITION TYPES

Part No.*	Old Federal No.	Schematic Circuit† Pos. 1	Pos. 2	Net Each, Lots of* 1-24	25-49	50-99	100-249
10206L‡	.....	2 "C"		$6.12	$5.61	$5.10	$4.08

THREE-POSITION TYPES

10307L§	1425	1 "C"	1 "C"	.....	.....	.....	.....
10313L#	1424	2 "C"	2 "C"	.....	.....	.....	.....
10325L•	12494	4 "C"	4 "C"	$15.24	$13.97	$12.70	$10.16

*For non-locking type, omit **"L"** in part no. †All center position off. ‡DPDT. §SPDT-NO, each sec. #DPDT-NO, each sec. •4PDT-NO, each sec.

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST

"FEATHER LEVER" SWITCHES

(C) Lightweight, miniature lever switches: Locking or non-locking types; two or three positions. Nylon roller actuator for smoother, easier operation. Rugged steel frame withstands rough usage, shock and vibration. Nickel silver springs with fine silver contacts, rated at 2 amps, 200 watts, max., AC, non-inductive load. Mount in 5/16" O.D. panel hole on 7/16" centers in panels up to ⅛" thick. Depth behind panel, 1 9/32". Supplied with black plastic push-on knob and locknut; other colors available.

TWO POSITION TYPES

Part No.*	Schematic Cir. Pos. 1	Pos. 2	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
29201	1 "A"		SPST-NO	.....	.....	.....	.....
29203	1 "C"		SPDT	$2.01	$1.843	$1.675	$1.34
29206	2 "C"		DPDT	2.40	2.20	2.00	1.60

THREE POSITION TYPES†

29303	1 "C"		SPDT-NO‡	$2.22	$2.035	$1.85	$1.48
29304	1 "A"	1 "A"	SPST-NO	.....	.....	.....	.....
29306	1 "C"	1 "C"	SPDT	2.58	2.365	2.15	1.72
29307	1 "C"	1 "C"	SPDT-NO‡	2.64	2.42	2.20	1.76
29312	2 "C"	2 "C"	DPDT	3.36	3.08	2.80	2.24

INTERCOM TALK-LISTEN SWITCHES

Lever locks on one side of neutral and operates non-locking on the other side.

29303T	1 "C"		SPDT-NO‡	$2.22	$2.035	$1.85	$1.48
29307T	1 "C"	1 "C"	SPDT-NO†	2.64	2.42	2.20	1.76

*Add suffix **L** to number (i.e., 29201**L**) for locking type; same price.
†Action shown is per section. ‡NO, center position off.

CONTOUR KNOBS FOR LEVER SWITCHES

(D) Attractive contour knobs designed for today's modern equipment. **Series M-1177** knobs have 8-32" tapped hole for use with "LEV-R" switches Series 3000, 12000 and 13000. **Series M-1178** knobs have 6-32" tapped hole for use with "TELEVER" switches Series 6000 and 16000.

Part Numbers		Color	Net Each, Lots of* 1-24	25-49	50-99	100-249
M-1177-1	M-1178-1	Red	$0.27	$0.248	$0.225	$0.18
M-1177-2	M-1178-2	Black	.27	.248	.225	.18
M-1177-15	M-1178-15	White	.27	.248	.225	.18

SPECIAL WRENCHES

(E) Designed to assemble knurled locknuts normally furnished with lever and button switches and jacks. **No. A-1070** wrench fits 15/32"-32 locknuts; **A-1071** for use with ¼"-32 knurled locknuts.

Part No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
A-1070	$13.50	$12.378	$11.25	$9.00	$8.55	$8.10
A-1071	13.50	12.378	11.25	9.00	8.55	8.10

PUSH-ON COLOR KNOBS

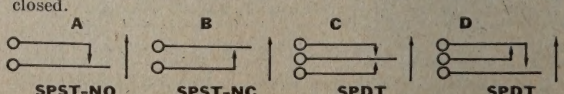
(F) Kit of molded plastic knobs for "Feather-Lever" switches; available in 10 colors as indicated. Knobs can be changed quickly by pulling off the present knob and pushing on new one; can be permanently mounted with plastic cement.

Part No.	Color	Net per Package of 10 1-24	25-49	50-99	100-249	250-499	500-999
K-108	*	$0.60	$0.55	$0.50	$0.40	$0.38	$0.36
K-109	Red	.60	.55	.50	.40	.38	.36
K-110	Black	.60	.55	.50	.40	.38	.36
K-111	Green	.60	.55	.50	.40	.38	.36
K-112	Blue	.60	.55	.50	.40	.38	.36
K-113	White	.60	.55	.50	.40	.38	.36
K-114	Brown	.60	.55	.50	.40	.38	.36
K-115	Orange	.60	.55	.50	.40	.38	.36
K-116	Yellow	.60	.55	.50	.40	.38	.36
K-117	Ivory	.60	.55	.50	.40	.38	.36
K-118	Gray	.60	.55	.50	.40	.38	.36

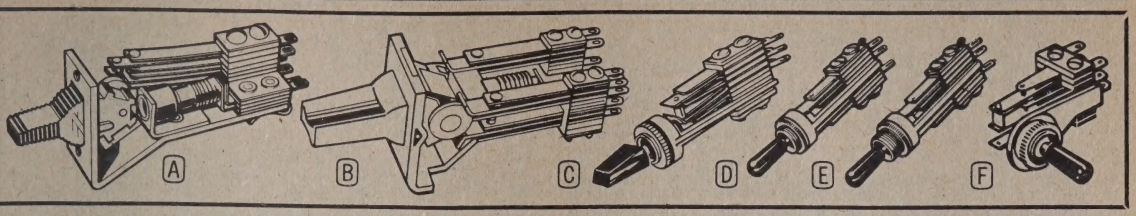
*One each of each color.

BASIC CONTACT FORMS

Switch circuitry can be described as combinations of the following basic schematic circuits. **NO**—normally open: **NC**—normally closed.



SWITCHCRAFT® INC. Lever Switches



COLOR-ILLUMINATED "LEVER-LITE" SWITCHES

Indicates each position in separate, illuminated colors. Available in two- or three-position, locking or non-locking types. Reduce panel space; minimize wiring costs. Nickel silver springs; silver contacts rated 3 amps, 300 watts, max., AC, non-inductive. Supplied with 6 V lamp (28 V available). Mounts in panels up to 3/32" thick.

(A) **Series 25000**—With six color insert chips (red, green, amber, yellow, blue and white; chips replaceable in the field). Size: 39/64" w. x 2 1/4" d. x 1 7/32" h. Mounts on 5/8" centers, requires 2 1/4" depth behind panel.

(B) **Series 27000**—Utilizes a larger contoured lever and larger, factory-installed color filters. Mounts on 3/4" centers, requires 2 3/16" depth behind panel. On standard two-position types, in neutral position shows amber lighting; down position, green lighting. On three-position types, in up position, shows red lighting; neutral position, amber lighting; down position, green lighting.

TWO-POSITION TYPES

Part No.*	Schematic Cir. Pos. 1	Pos. 2	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
25201	1 "A"		SPST-NO	$3.69	$3.383	$3.075	$2.46
25203	1 "C"		SPDT	3.90	3.575	3.25	2.60
25206	2 "C"		DPDT	4.59	4.208	3.825	3.06
25209	3 "C"		3PDT	4.17	3.82	3.48	2.78
27206	2 "C"		DPDT	6.00	5.50	5.00	4.00
27212	4 "C"		4PDT	7.35	6.738	6.125	4.90

THREE-POSITION TYPES†

25304	1 "A"	1 "A"	SPST-NO	$4.17	$3.823	$3.475	$2.78
25306	1 "C"	1 "C"	SPDT	4.59	4.208	3.825	3.06
25308	2 "A"	2 "A"	DPST-NO	4.02	3.69	3.35	2.68
25312	2 "C"	2 "C"	DPDT	5.52	5.06	4.60	3.68
27306	1 "C"	1 "C"	SPDT	6.00	5.50	5.00	4.00
27307	1 "C"	1 "C"	SPDT-NO‡	6.12	5.61	5.10	4.08
27312	2 "C"	2 "C"	DPDT	7.35	6.738	6.125	4.90

*Add suffix **L** to number (e.g., 25201**L**) for locking type; same price. †Action shown is per section. ‡NO, center position off.

ESCUTCHEON PLATES

For easy and convenient mounting of above switches without punching rectangular hole in panel. Satin black finish. With two machine screws.

Part No.	Use With	Net Each, Lots of* 1-24	25-49	50-99	100-249
531	Series 25000	$0.18	$0.165	$0.15	$0.12
532	Series 27000	.24	.22	.20	.16
P-1864*	Series 27000	.15	.138	.125	.10

*Ambient light shield.

REPLACEMENT SCREW BASE LAMPS

Lamps are mounted in a "snap-out" frame assembly.

Part No.	Volts	Ind. No.	Net Each, Lots of* 1-24	25-49	50-99	100-249
P-1217	6	1768	$0.93	$0.853	$0.775	$0.62
P-1218	28	Hudson 318	1.56	1.43	1.30	1.04

MOLDED KNOB "LEV-R" SWITCH

(C) Compact, lever action switch with permanently molded black knob. Two- or three-position, locking or non-locking. Fine silver contacts rated 3 amps, 300 watts, max., AC, non-inductive. Supplied with locknut and non-turn ring to prevent switch from turning in mounting hole. Mounts on 5/8" centers, panels up to 3/32" thick. Mounting holes required: 15/64" dia. for bushing, 1/8" dia. for non-turn device. Depth behind panel, 2 1/4".

TWO-POSITION TYPES

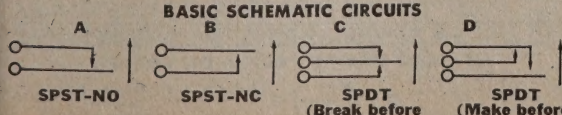
Part No.*	Schematic Cir. Pos. 1	Pos. 2	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
28201	1 "A"		SPST-NO	$2.40	$2.20	$2.00	$1.60
28203	1 "C"		SPDT	2.91	2.668	2.425	1.94
28206	2 "C"		DPDT	3.60	3.30	3.00	2.40

THREE-POSITION TYPES†

28304	1 "A"	1 "A"	SPST-NO	$3.15	$2.888	$2.625	$2.10
28306	1 "C"	1 "C"	SPDT	3.45	3.163	2.875	2.30
28307	1 "C"	1 "C"	SPDT-NO‡	3.51	3.218	2.925	2.34
28312	2 "C"	2 "C"	DPDT	4.26	3.905	3.55	2.84

*Add suffix **L** to number (e.g., 28201**L**) for locking type; same price. †Action shown is per section. ‡NO, center position off.

BASIC SCHEMATIC CIRCUITS



"LEV-R" SWITCHES

(D)(E) Compact lever switches take only half the space usually needed for a lever switch. Choice of two or three positions, locking or non-locking type. Non-locking type has spring return. Fine silver contacts rated 3 amps, 300 watts, max., AC, non-inductive. Come with locknut and screw-on black knob. Frame bushing and shaft are nickel plated brass. Width: 5/8". Mounting: 2 1/4" behind panel; single 1/2" dia. hole. **Series 3000 (Fig. D)** mounts in panels up to 3/32" thick. **Series 13000 (Fig. E)** mounts in panels up to 1/4" thick. **Intercom types** (with suffix **"T"**) are talk-listen switches, lever locks on one side of neutral and operates non-locking on the other side.

TWO-POSITION TYPES

Part No.*	Schematic Cir. Pos. 1	Pos. 2	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
3001	1 "A"		SPST-NO	$1.89	$1.733	$1.575	$1.26
3003	1 "C"		SPDT	2.28	2.09	1.90	1.52
3004	2 "A"		DPST-NO	2.46	2.255	2.05	1.64
3006	2 "C"		DPDT	2.07	1.90	1.73	1.38
3006D	2 "D"		DPDT	2.22	2.04	1.85	1.48
3009	3 "C"		3PDT	3.51	3.218	2.925	2.34
13001	1 "A"		SPST-NO	2.07	1.898	1.725	1.38
13003	1 "C"		SPDT	2.37	2.173	1.975	1.58
13004	2 "A"		DPST-NO	2.61	2.393	2.175	1.74
13006	2 "C"		DPDT	2.88	2.64	2.40	1.92
13009	3 "C"		3PDT	3.78	3.465	3.15	2.52

THREE-POSITION TYPES†

3033	1 "C"		SPDT-NO‡	$2.46	$2.255	$2.05	$1.64
3034	1 "A"	1 "A"	SPST-NO	2.55	2.338	2.125	1.70
3036	1 "C"	1 "C"	SPDT	2.88	2.64	2.40	1.92
3036D	1 "D"	1 "D"	SPDT	2.43	2.23	2.03	1.62
3037	1 "C"	1 "C"	SPDT-NO‡	2.94	2.695	2.45	1.96
30312	2 "C"	2 "C"	DPDT	3.87	3.548	3.225	2.58
30313	2 "C"	2 "C"	DPDT-NO‡	3.87	3.548	3.225	2.58
13033	1 "C"		SPDT-NO‡	2.64	2.42	2.20	1.76
13034	1 "A"	1 "A"	SPST-NO	2.70	2.475	2.25	1.80
13036	1 "C"	1 "C"	SPDT	3.15	2.888	2.625	2.10
13036D	1 "D"	1 "D"	SPDT	3.36	3.08	2.80	2.24
13037	1 "C"	1 "C"	SPDT-NO‡	3.15	2.88	2.625	2.10
130312	2 "C"	2 "C"	DPDT	3.81	3.493	3.175	2.54
130313	2 "C"	2 "C"	DPDT-NO‡	3.81	3.493	3.175	2.54
3033T	1 "C"		SPDT-NO‡	2.46	2.255	2.05	1.64
3037T	1 "C"	1 "C"	SPDT-NO‡	2.94	2.695	2.45	1.96
13033T	1 "C"		SPDT-NO‡	2.64	2.42	2.20	1.76
13037T	1 "C"	1 "C"	SPDT-NO‡	3.15	2.888	2.625	2.10

*Add suffix **L** to number (e.g., 3003**L**) for locking type; same price. †Action shown is per section. ‡NO, center position off.

RIGHT-ANGLE "LEV-R" SWITCHES

(F) Small, right-angle action switch require minimum depth behind panel. Available in two-position and three-position types, locking and non-locking. Long, leaf-type springs for extended life. Fine silver contacts rated 3 amps, 300 watts, max., AC, non-inductive. Mounts in panels 3/32" thick in single 1/2" dia. hole; requires 7/8" depth behind panel. With nickel plated locknut and removable, black plastic knob.

TWO-POSITION TYPES

Part No.*	Schematic Cir. Pos. 1	Pos. 2	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
12003	1 "C"		SPDT	$1.92	$1.76	$1.60	$1.28
12006	2 "C"		DPDT	2.40	2.20	2.00	1.60

THREE POSITION TYPES†

12033	1 "C"		SPDT-NO§	$2.16	$1.98	$1.80	$1.44
12033T‡	1 "C"		SPDT-NO§	2.16	1.98	1.80	1.44
12034	1 "A"	1 "A"	SPST-NO	2.28	2.09	1.90	1.52
12035	1 "B"	1 "B"	SPST-NC	1.71	1.57	1.43	1.14
12036	1 "C"	1 "C"	SPDT	2.55	2.338	2.125	1.70
12037	1 "C"	1 "C"	SPDT§	2.64	2.42	2.20	1.76
12037T‡	1 "C"	1 "C"	SPDT§	2.64	2.42	2.20	1.76

*Add suffix **L** to number (e.g., 12003**L**) for locking type; same price. †Action shown is per section. ‡Locking on one side; non-locking on other. §NO, center position off.

LAMP SOCKET FOR "LEVER-LITE" SWITCHES

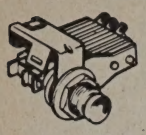
Accepts T-1 3/4 miniature flange base lamps. Used as replacement or specified instead of original socket on Series 25000 and 27000. Shield prevents shorts which might be caused by lamp socket frame rubbing against switch springs.

Part No. T-14 Lamp Socket—Lamp not supplied.

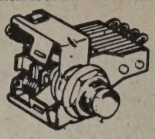
Net Ea., Lots: 1-24 **$0.78**; 25-49 **$0.715**; 50-99 **$0.650**

★LARGER QUANTITY PRICES ON REQUEST

ILLUMINATED "NF-LITE" SWITCHES



Series 4100



Series 4200

Indicate switching and circuit functions at a glance. Flat frame construction provides multiple pole momentary action switching. Lighting circuit independent of switching circuit. For control panel or press-to-test applications. Fine silver contacts, rated 3 amps, 300 watts max., AC, non-inductive. **Series 4100** uses a single miniature lamp, 6 or 28 V. Light is filtered through color chip to clear plastic pushbutton; different chips can be inserted as needed from kit of four (red, amber, green, yellow) furnished. **Series 4200** similar except uses two lamps for greater illumination or for color-coding two circuit conditions; two color chip kits furnished. Both series require 11/16" min., 1 5/16" max. depth behind panel, depending on size of stack, and mount in 3/8" hole in panels up to 1/4" thick. Lamps must be purchased separately; see lamp listing below.

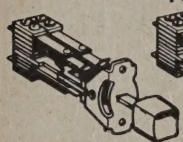
SERIES 4100

Part No.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99	100-249*
4106	2 "C"	DPDT	$2.19	$2.008	$1.825	$1.46
4109	3 "C"	3PDT	.....	.....	.....	.....

SERIES 4200

4206	2 "C"	DPDT	$3.12	$2.86	$2.60	$2.08
4209	3 "C"	3PDT	.....	.....	.....	.....

"PUSH-PUSH" SWITCHES



Series 5000

Series 15000

Push-to-lock, push-to-release or momentary action pushbutton switches. Available in numerous multiple pole circuits. Welded cross bar palladium contacts rated at 2 amps, 200 watts max., non-inductive AC load. Mount with two 3-48 screws on 5/8" centers. Depth behind panel, 2 7/8". **Series 5000** non-illuminated pushbutton switch, supplied with square, brown button. **Series 15000** illuminated pushbutton switch, supplied with modern white, square button with front and side illumination; white lamp diffuser provides uniform lighting; knurled retaining collar for easy lamp replacement. Use 6 or 28 V lamp (not supplied; see listings). Lighting circuits are isolated from switching stacks.

NON-ILLUMINATED

5006*	2 "C"	DPDT	$5.22	$4.785	$4.35	$3.48
5012*	4 "C"	4PDT	6.36	5.83	5.30	4.24

ILLUMINATED

†15003*	1 "C"	SPDT	.....	.....	.....	.....
†15012*	4 "C"	4PDT	.....	.....	.....	.....

*Part Nos. shown are for momentary types; add suffix **L** for locking types. †Add letter **"L"** here if pushbuttons are to light in "IN" position only; add **"M"** if to light in "OUT" position only; add **"N"** to light in both "IN" and "OUT" positions.

ILLUMINATED "LITTEL-LITE" SWITCHES

Small momentary contact, illuminated pushbutton switches. Require minimum panel space, thus are ideal for limited space applications and press-to-test circuits. One-piece, clear plastic button and shaft illuminated by single miniature 6 or 28 V lamp. Lamps are not furnished; see lamp listing below. Includes kit of 4 color chips (red, amber, green, and yellow); can be inserted in switch at any time. Nickel silver spring contacts are recommended for low level circuits where contact resistance is not important. Also available, fine silver contacts (Part No. with suffix **"S"**) rated at 3 amps, 300 watts, max., AC non-inductive load. Lighting circuit is independent of switching circuit. Mount in single 3/8" hole in panels up to 1/4" thick; depth behind panel 1 5/16".

211	1 "A"	SPST-NO	$1.56	$1.43	$1.30	$1.04
213	1 "C"	SPDT	1.92	1.76	1.60	1.28
211S	1 "A"	SPST-NO	1.95	1.788	1.625	1.30
213S	1 "C"	SPDT	2.31	2.118	1.925	1.54

LAMPS FOR ILLUMINATED SWITCHES

"NF-Lite", "Littel-Lite", "Push-Lite" and Series 15000 "Push-Push" switches are not supplied with lamps; all lamps must be ordered separately by the following part numbers.

LAMPS FOR "NF-LITE" AND "LITTEL-LITE" SWITCHES

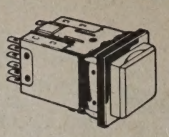
Part No.	V	Lamp Base	Net Each, Lots of 1-24	25-49	50-99	100-249*
P-1217	6 V	Screw	$0.93	$ .853	$ .775	$0.62
P-1218	28 V	Screw	1.56	1.43	1.30	1.04

LAMPS FOR "PUSH-LITE" AND "PUSH-PUSH" SWITCHES

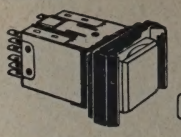
P-1593-1	28 V	Flange	$1.02	$0.935	$0.85	$0.68
P-1593-2	6 V	Flange	.84	.77	.70	.56
P-1593-5	6 V	Flange	1.02	.935	.85	.68
P-1593-6	28 V	Flange	.87	.798	.725	.58
P-1593-7	6 V	Flange	1.05	.963	.875	.70
P-1890*	6 V	Flange	2.40	2.20	2.00	1.60
T-1 Lamp Adapter for P-1890†			.....	.....	.....	.....

*T-1 subminiature lamp for "Push-Lite" only; requires Part No. T-1 lamp adapter. †Converts T-1 lamp base to T-1¾ base.

"PUSH-LITE" SWITCHES



A



B

First completely enclosed lighted pushbutton switch to feature highly reliable, long-life, leaf-spring switching. Available in momentary or push-lock/push-release functions with single or twin lamps, with or without barriers, and with full or split-face display, 1 "C" to 4 "C" switching and black or gray housing. Standard pushbutton color is white; other colors available on special order. Molded crossbar palladium contacts are standard; rated 2 amps, 200 watts max., AC non-inductive load. Power switching up to 5 amps available on special order. Switches mount with clamp-type bracket requiring no screws, washers or nuts. Can be flange-mounted (Fig. A) in 1" x 7/8" panel cutout or barrier-mounted (Fig. B) in 1 3/16" x 7/8" cutout. Depth behind panel only 1¾"; can be mounted in vertical or horizontal rows and in matrices. Switch accepts standard T-1¾ flange base lamps (not furnished) with 6 volt or 28 volt ratings; see listing at left below. Specify one for single lamp type or two lamps for twin lamp type when redundant or split-face lighting is required. Barriers and colored filter snap inserts are optional.

MOMENTARY ACTION—SINGLE LAMP

Part Numbers: Black Housing	Gray Housing	Schem.	Action	Net Each, Lots of 1-24	25-49	50-99	100-249*
PL-1032-05	PL-4032-05	1 "C"	SPDT	$6.42	$5.885	$5.35	$4.28
PL-1062-05	PL-4062-05	2 "C"	DPDT	6.57	6.023	5.475	4.38
PL-1122-05	PL-4122-05	4 "C"	4PDT	7.11	6.518	5.925	4.74

MOMENTARY ACTION—TWIN LAMP

PL-2032-05	PL-5032-05	1 "C"	SPDT	$6.57	$6.023	$5.475	$4.38
PL-2062-05	PL-5062-05	2 "C"	DPDT	6.78	6.215	5.65	4.52
PL-2122-05	PL-5122-05	4 "C"	4PDT	7.26	6.655	6.05	4.84

PUSH-LOCK/PUSH-RELEASE—SINGLE LAMP

PL-1037-05	PL-4037-05	1 "C"	SPDT	$6.78	$6.215	$5.65	$4.52
PL-1067-05	PL-4067-05	2 "C"	DPDT	6.93	6.353	5.775	4.62
PL-1127-05	PL-4127-05	4 "C"	4PDT	7.47	6.848	6.225	4.98

PUSH-LOCK/PUSH-RELEASE—TWIN LAMP

PL-2037-05	PL-5037-05	1 "C"	SPDT	$7.47	$6.848	$6.225	$4.98
PL-2067-05	PL-5067-05	2 "C"	DPDT	7.62	6.985	6.35	5.08
PL-2127-05	PL-5127-05	4 "C"	4PDT	8.16	7.48	6.80	5.44

COLOR FILTER SNAP-INSERTS

Translucent filters for color coding in "Push-Lite" switches. Use white or clear pushbuttons. Std. pkg., 25; split-face, 50.

Full Display Color Filters

Part No.	Color	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
PL-301	Red	$0.066	$0.061	$0.055	$0.044	$0.042	$0.04
PL-303	Green	.066	.061	.055	.044	.042	.04
PL-304	Blue	.066	.061	.055	.044	.042	.04
PL-305	White	.066	.061	.055	.044	.042	.04
PL-308	Yellow	.066	.061	.055	.044	.042	.04

Split-Face Display Color Filters

PL-401	Red	$0.048	$0.044	$0.04	$0.032	$0.03	$0.029
PL-403	Green	.048	.044	.04	.032	.03	.029
PL-404	Blue	.048	.044	.04	.032	.03	.029
PL-405	White	.048	.044	.04	.032	.03	.029
PL-408	Yellow	.048	.044	.04	.032	.03	.029

OPTIONAL MOUNTING BARRIERS

Molded plastic barriers can be used to separate "Push-Lite" switches to prevent accidental operation of adjacent switches. **Series PL-100 End Barriers**—One required when switches are mounted adjacently; two when mounted individually. **Series PL-200 Center Barriers**—Two required between switches when mounted adjacently. Standard package is 10.

PL-102	Black	$0.09	$0.083	$0.075	$0.06	$0.057	$0.054
PL-111	Gray	.09	.083	.075	.06	.057	.054
PL-202	Black	.09	.083	.075	.06	.057	.054
PL-211	Gray	.09	.083	.075	.06	.057	.054

REPLACEMENT PUSHBUTTONS

PL-501	Red	$0.15	$0.138	$0.125	$0.10	$0.095	$0.09
PL-503	Green	.15	.138	.125	.10	.095	.09
PL-504	Blue	.15	.138	.125	.10	.095	.09
PL-505	White	.15	.138	.125	.10	.095	.09
PL-508	Yellow	.15	.138	.125	.10	.095	.09
PL-512	Clear	.15	.138	.125	.10	.095	.09
PL-513	Amber	.15	.138	.125	.10	.095	.09

LIGHT DIVIDER

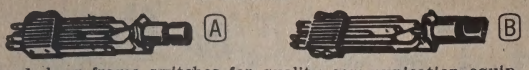
For use in standard "Push-Lite" switch pushbuttons to separate lighting from twin-lamps. Order one for each Series PL-2000 or PL-5000 switch specified where split-face lighting is desired. Standard package is 25.

Part No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
PL-551	$0.06	$0.055	$0.05	$0.04	$0.038	$0.036

★LARGER QUANTITY PRICES ON REQUEST

BASIC CONTACT FORMS A B C D

"T-SWITCH"



Rugged, long frame switches for quality communication equipment. Welded cross bar palladium contacts rated at 2 amps, 200 watts max., AC non-inductive load. Require minimum of panel space, only 9/16" x 13/16"; 2 1/8" depth behind panel. **Series 11000 (Fig. A),** pushbutton T-Switch available in momentary action and push-to-lock, pull-to-release action. **Series 11200 (Fig. B),** two position turn button T-Switch available in non-locking and locking action. Black button with white arrow indicates switching position. Prefix **W** indicates wire-wrapping terminals.

Part Number			Net Each, Lots of					
Push-button*	Turn Button*	Schem. Circuit	1-24	25-49	50-99	100-249	250-499	500-999
11003	11203	1 "C"†	$3.54	$3.245	$2.95	$2.36	$2.242	$2.124
11006	11206	2 "C"‡	. . .	. . .	. . .	. . .	. . .	. . .
11006D	11206D	2 "D"‡	. . .	. . .	. . .	. . .	. . .	. . .
11012	11212	4 "C"§	6.00	5.50	5.00	4.00	3.80	3.60
W11003	W11203	1 "C"†	3.63	3.328	3.025	2.42	2.299	2.178
W11006	W11206	2 "C"‡	4.62	4.235	3.85	3.08	2.926	2.772
W11012	W11212	4 "C"§	6.48	5.94	5.40	4.32	4.104	3.988

*Add Suffix **"L"** to Part Number to indicate Locking Type desired; price remains the same. †SDPT. ‡DPDT. §4PDT.

MINIATURE "TF" BUTTON SWITCHES

Small, sturdily constructed "Tiny Frame" switches. Provide simple, direct acting pushbutton switching for use where space is at a premium. Available as **Type 976L,** push-to-lock, pull-to-release; or **Type 976,** momentary action. Nickel silver springs, integral contacts, recommended for low level circuits where contact resistance is unimportant. Require only 1 19/64" depth behind panel; mount in single 1/4" hole in panels up to 3/32" thick.

Part No.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99	100-249*
976	2 "C"	DPDT	$1.23	$1.128	$1.025	$0.82
976L	2 "C"	DPDT	2.01	1.843	1.675	1.34

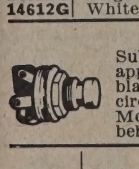
"LITTEL-SWITCH"

Series 100, 200, tiny, momentary contact, pushbutton switches. Rugged, dependable action. All contacts insulated from panel bushing with interlocking phenolic washers. Nickel silver springs; recommended only for low level circuits where contact resistance is unimportant. **Series 100S and 200S** have fine silver contacts rated at 3 amps or 300 watts max., AC, non-inductive load. One-piece plastic button and shaft in red or black. Mount in 3/8" hole in panels up to 1/4".

Part Number			Net Each, Lots of			
Red Button	Black Button	Schematic Circuit	1-24	25-49	50-99	100-249*
101	201	1 "A"*	$0.75	$0.688	$0.625	$0.50
101S	201S	1 "A"*	1.08	.99	.90	.72
102	202	1 "B"†	.75	.688	.625	.50
102S	202S	1 "B"†	1.08	.99	.90	.72
103	203	1 "C"‡	.93	.853	.775	.62
103S	203S	1 "C"‡	1.23	1.128	1.025	.82

*SPST-NO. †SPST-NC. ‡SPDT.

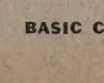
"CRADLE-SWITCH"



Holds W.E. and other standard telephone industry handsets. Housing is sturdy, yet flexible enough to withstand shocks and vibrations. Housing includes specially designed Hook Switch with 4PDT contact arrangement. Switch has long silver springs with gold alloy contacts rated 1 amp, 100 watts max., AC non-inductive load. Ideal for use in critical low-level audio circuits. Housing color as indicated.

Part No.	Color	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
14412G	Black	$7.26	$6.655	$6.05	$4.84	$4.598	$4.356
14512G	Beige	7.26	6.655	6.05	4.84	4.598	4.356
14612G	White	7.26	6.655	6.05	4.84	4.598	4.356

"TINY-SWITCH"



Sub-miniature pushbutton switches for limited space applications. **Series 950,** red button; **Series 960,** black button. Integral contacts suitable for low level circuits where contact resistance is not important. Mount in 1/4" hole in panels up to 3/32" thick; depth behind panel 3/8".

Part No.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99	100-249*
951	1 "A"	SPST-NO	$0.75	$6.88	$6.25	$0.50
952	1 "B"	SPST-NC	.75	6.88	6.25	.50
953	1 "C"	SPDT	.93	.853	.775	.62
961	1 "A"	SPST-NO	.75	6.88	6.25	.50
962	1 "B"	SPST-NC	.75	6.88	6.25	.50
963	1 "C"	SPDT	.93	.853	.775	.62

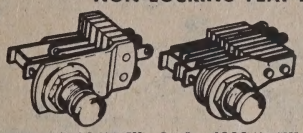
BASIC CONTACT FORMS A B

"CORD-SWITCH"

Series 903 or **913** button switch ideal as cord mounted or pendant switch in remote control applications. Prefix **E** in Part No. indicates bright nickel plated brass housing, **EP** is molded black plastic. Housing 1 1/16" dia., 2 3/16" lg. All switches are momentary SPDT, break before make (1 "C"). Rated 250 mA, 30 W max., AC non-inductive load.

Part Numbers		Net Each, Lots of					
Red Button	Black Button	1-24	25-49	50-99	100-249	250-499	500-999
E-903	E-913	$1.80	$1.65	$1.50	$1.20	$1.14	$1.08
EP-903	EP-913	1.65	1.513	1.375	1.10	1.045	.99

NON-LOCKING FLAT FRAME SWITCHES



Series 1000 "FF" Series 4000 "NF"

"FF" Switches, Series 1000—Flat frame construction provides multiple pole switching with minimum depth behind panel. Fine silver contacts rated at 3 amps, 300 watts max., AC, non-inductive load. One-piece black button and shaft, 3/8" diameter threaded shank, mount in panels up to 1/4" thick. **"NF" Switches, Series 4000**—Same as "FF" but smaller spring design; for mounting in ultra-compact equipment. Only 1/2" w.; 1 5/8" lg.; mount in 3/8" hole in panels up to 5/32" thick.

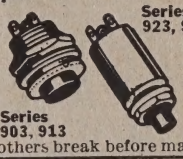
SERIES 1000 "FF" SWITCHES

Part No.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99	100-249*
1001	1 "A"	SPST-NO	$1.08	$0.99	$0.90	$0.72
1003	1 "C"	SPDT	1.17	1.073	.975	.78
1004	2 "A"	DPST-NO	1.26	1.155	1.05	.84
1006	2 "C"	DPDT	1.50	1.375	1.25	1.00
1009	3 "C"	3PDT	2.16	1.98	1.80	1.44

SERIES 4000 "NF" SWITCHES

4001	1 "A"	SPST-NO	$1.08	$0.99	$0.90	$0.72
4003	1 "C"	SPDT	1.17	1.073	.975	.78
4004	2 "A"	DPST-NO	1.26	1.155	1.05	.84
4006	2 "C"	DPDT	1.50	1.375	1.25	1.00
4009	3 "C"	3PDT	2.13	1.953	1.775	1.42

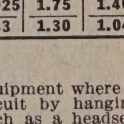
"BUTTON-SWITCH"



Unusually small, momentary action pushbutton switches. Enclosed in metal housing; black or red plastic button. **Series 903** and **913,** back panel mounting, 15/64" hole, mount in panels up to 19/64" thick. **Series 923** and **933,** front panel mounting; 1/4" hole, mount in panels up to 5/32" thick. All rated at 250 mA, AC, non-inductive load, 30 watts max.; SPDT, suffix **D** types make before break, others break before make.

Part Numbers			Net Each, Lots of			
Red Button	Black Button	Schematic Circuit	1-24	25-49	50-99	100-249*
903	913	1 "C"	$1.14	$1.045	$0.95	$0.76
903D	913D	1 "D"	1.14	1.045	.95	.76
923	933	1 "C"	1.20	1.10	1.00	.80
923D	933D	1 "D"	1.20	1.10	1.00	.80

"RS" SWITCHES

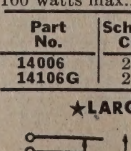


Rugged rotary switches, available in various multiple circuits, 2- and 3-position types, locking (add suffix **"L"** to No.; price remains the same) or non-locking action. Ideal for communication, musical and test equipment applications. Fiber cam actuates long, leaf-type springs resulting in easy action; good wiping action of contacts. Fine silver contacts rated at 3 amps, 300 watts max., AC, non-inductive load. Require only 1/8" depth behind panel, mount in single 3/8" hole in panels up to 1/4" thick.

Part No.	Schematic Circuit Pos. 1	Pos. 2	Action, Each Section	Net Each, Lots of 1-24	25-49	50-99	100-249*
2003*	1 "C"		SPDT	$1.56	$1.43	$1.30	$1.04
2006*	2 "C"		DPDT	2.10	1.925	1.75	1.40
2036†	1 "C"	1 "C"	SPDT	2.10	1.43	1.30	1.04

*Two-position type. †Three-position type.

"HOOK SWITCH"

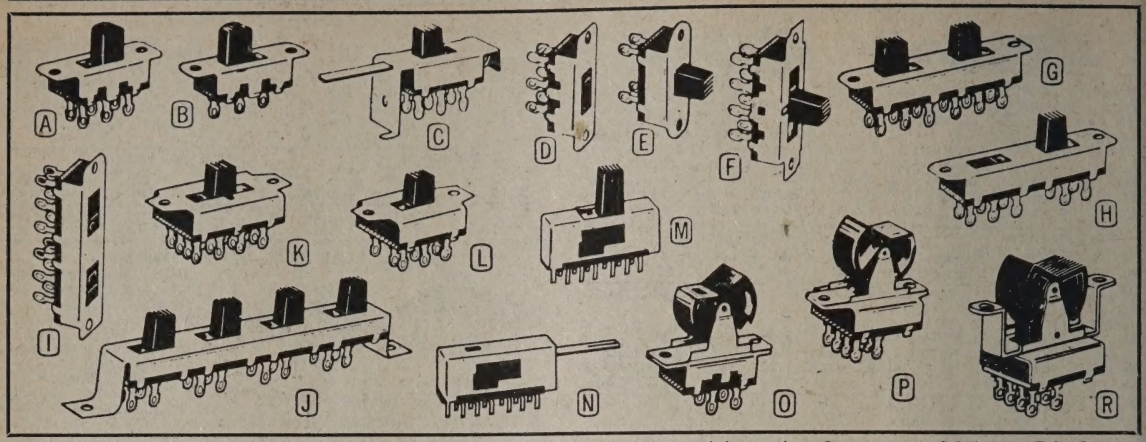


Leaf-type switches ideal for equipment where it is necessary to actuate a circuit by hanging an accessory on a "hook", such as a headset, telephone or microphone. **No. 14006** is actuated by a hook (or hanger) and has fine silver contacts rated 3 amps, 300 watts max., AC non-inductive load. **No. 14106G** is actuated by nylon actuator and has welded crossbar gold alloy contacts rated 1 amp, 100 watts max., AC non-inductive load.

Part No.	Schematic Circuit	Action	Net Each, Lots of* 1-24	25-49	50-99	100-249
14006	2 "C"	DPDT	$3.03	$2.778	$2.525	$2.02
14106G	2 "C"	DPDT	3.30	3.025	2.75	2.20

★LARGER QUANTITY PRICES ON REQUEST

C D



Precision switches use special "U" shaped bifurcated sliders to assure continuous wiping action. Contacts rated 0.5 amp DC, 3 amps AC, 125 V non-inductive load. Standard solder lug terminals have 5/64" dia. center hole and wrap-around notch for wiring ease. Most switches furnished with black 1/2" knob and .140" dia. mounting holes; Part Nos. ending in **LF** or **LFR** have flush screwdriver-actuated knob. All slide and rocker switches UL Approved unless otherwise indicated.

"DOUBLE-WIPE" SLIDE SWITCHES

SERIES 46000R TWO- AND THREE-POSITION TYPES

Two-Position Locking

Part No.	Fig.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99
46202LR	A	II	SPST	**$0.30**	**$.275**	**$.25**
46203LR	A	III	SPDT	**.33**	**.303**	**.275**
46203LSR*	A	III	SPDT	**.36**	**.33**	**.30**
46204LR	A	2-II	DPST	**.36**	**.33**	**.30**
46206LFR	D	2-III	DPDT	**.48**	**.44**	**.40**
46256LFR	D	V	DPDT	**.51**	**.468**	**.425**

*Shorting type.

Two-Position Momentary

No. 46206MP has 1 1/8" plunger and extruded and tapped 6-32 mounting holes. No. 46204MBR not UL Listed.

46201MR	B	I	SPST	**$0.45**	**$.413**	**$.375**
46202MR	B	I	SPST	**.42**	**.385**	**.35**
46203MR	B	III	SPDT	**.48**	**.44**	**.40**
46204MR	B	2-I	DPST	**.51**	**.468**	**.425**
46206MR	B	2-III	DPDT	**.57**	**.523**	**.475**
46206MP	C	2-III	DPDT	**.54**	**.495**	**.45**
46204MBR	E	IV	DPST	**.48**	**.44**	**.40**

Three-Position, Center Locking

All have shutter type dust cover to prevent dirt and dust from contaminating switch contacts. Nos. ending in **LDR** lock in all positions; **MDR,** momentary action either side of center; **TDR,** momentary on one side of center, locking on other. Center position off.

46311LDR	F	VI	SP3T	**$0.48**	**$0.44**	**$0.40**
46311MDR	F	VI	SP3T	**.54**	**.495**	**.45**
46311TDR	F	VI	SP3T	. . . . .	. . . . .	. . . . .
46313LDR	F	2-VI	DP3T	**.51**	**.468**	**.425**
46313MDR	F	2-VI	DP3T	**.57**	**.523**	**.475**
46313TDR	F	2-VI	DP3T	**.54**	**.495**	**.45**

SERIES 47000 TANDEM SLIDE SWITCHES, LOCKING

Compact, two-gang slide switches. Part No. with suffix LR indicates two independent knobs; LCR indicates single knob construction with coupling link between knobs, one knob 1 1/32" high, other flush screwdriver operated; LFR has two knobs flush with switch housing, one knob screwdriver actuated. Knobs are coupled, shorting bar each section.

47202LR	G	II*	SPST*	**$0.60**	**$0.55**	**$0.50**
47206LR	G	2-III*	DPDT*	**.75**	**.688**	**.625**
47206LCR	H	2-III*	DPDT*	. . . . .	. . . . .	. . . . .
47227LFR	I	V*	DPDT*	**1.23**	**1.128**	**1.025**

SERIES 48000 QUADRUM SLIDE SWITCHES, LOCKING

Four-gang slide switches with independent knob operation; .153" mounting holes. Not submitted for UL approval.

48208L	J	4-II	SPST*	**$1.26**	**$1.155**	**$1.05**
48224L	J	8-III	DPDT*	**1.68**	**1.54**	**1.40**

*Each section.

SERIES 49000 THREE-POSITION LOCKING TYPES

Large, heavy duty general-purpose 3 and 4 pole slide switches. Knob height, 1/2"; mounting holes, 9/64". Non-shorting.

49309L	K	3-III	3PDT	**$0.66**	**$.605**	**$0.55**
49329L	K	3-VI	3P3T	**.69**	**.623**	**.575**
49312L	K	4-III	4PDT	**.69**	**.633**	**.575**
49331L	K	4-VI	4P3T	**.75**	**.688**	**.625**

SERIES 50000 TWO-POSITION GENERAL PURPOSE TYPES

Locking

Part No.	Fig.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99
50207L	L	3-II	3PST	**$0.63**	**$.578**	**$.525**
50208L	L	4-II	4PST	**.66**	**.605**	**.55**
50209L	L	3-III	3PDT	**.69**	**.633**	**.575**
50209LS*	L	3-III	3PDT	. . . . .	. . . . .	. . . . .
50212L	L	4-III	4PDT	**.72**	**.66**	**.60**
50212LS*	L	4-III	4PDT	. . . . .	. . . . .	. . . . .

Momentary

50207M	L	3-II	3PST	**$0.72**	**$0.66**	**$0.60**
50209M	L	3-III	3PDT	**.78**	**.715**	**.65**
50209MS*	L	3-III	3PDT	. . . . .	. . . . .	. . . . .

*With shorting contacts; all others non-shorting.

SERIES 53000 MINIATURE TWO-POSITION TYPES

PC terminals snap easily into PC board. Nos. 53206L and 53212L locking types have 1/2" knob; No. 53212MP has momentary plunger. Not submitted for UL approval.

53206L	M	2-III	DPDT	**$0.81**	**$ .743**	**$ .675**
53212L	M	4-III	4PDT	**1.08**	**.99**	**.90**
53212MP	N	4-III	4PDT	**1.20**	**1.10**	**1.00**

"DOUBLE-WIPE" ROCKER SWITCHES

SERIES 51000 TWO-POSITION TYPES

Compact rocker switches offer same quality and dependability as standard slide switches. Rugged rocker bracket is precision welded to standard slide switch housing; rocker pivots between bracket members to allow free actuation of switch mechanism. Black rocker.

Locking

Part No.	Fig.	Schematic Circuit	Action	Net Each, Lots of 1-24	25-49	50-99
51202LR	O	II	SPST-NC	**$0.63**	**$ .578**	**$ .525**
51203LR	O	III	SPDT	**.69**	**.633**	**.575**
51204LR	O	2-I	DPST	. . . . .	. . . . .	. . . . .
51206LR	O	2-III	DPDT	**.72**	**.66**	**.60**

Momentary

51201MR	O	I	SPST-NO	**$0.72**	**$0.66**	**$0.60**
51202MR	O	II	SPST-NC	**.72**	**.66**	**.60**
51203MR	O	III	SPDT	. . . . .	. . . . .	. . . . .
51204MR	O	2-I	DPST	**.78**	**.715**	**.65**
51206MR	O	2-III	DPDT	**.81**	**.743**	**.675**

SERIES 52000 TWO-POSITION LOCKING TYPES

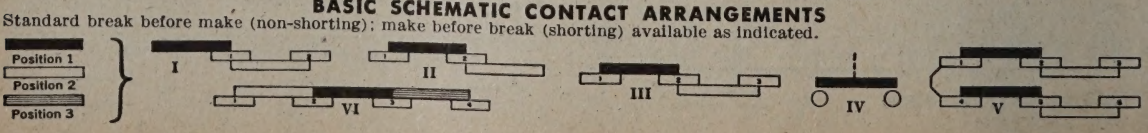
Larger than Series 51000, offering 3 and 4 poles of switching. Suffix **L** indicates non-shorting type; **LS** is shorting type. Series B52000, offset mounting bracket for flush or sub-panel mounting.

52207L	P	3-II	3PST	. . . . .	. . . . .	. . . . .
52208L	P	4-II	4PST	. . . . .	. . . . .	. . . . .
52209L	P	3-III	3PDT	**$0.90**	**$ .825**	**$0.75**
52209LS	P	3-III	3PDT	. . . . .	. . . . .	. . . . .
52212L	P	4-III	4PDT	**.96**	**.88**	**.80**
52212LS	P	4-III	4PDT	**1.02**	**.935**	**.85**
B52208L	R	4-I	4PST	**1.17**	**1.073**	**.975**
B52209L	R	2-III	3PDT	**1.17**	**1.073**	**.975**
B52212L	R	4-III	4PDT	**1.23**	**1.128**	**1.025**

*Not submitted for UL approval.

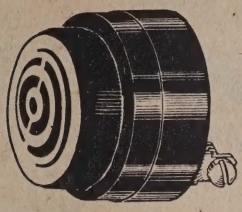
BASIC SCHEMATIC CONTACT ARRANGEMENTS

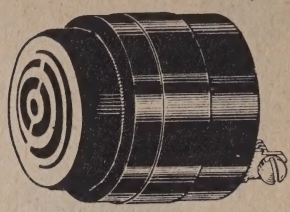
Standard break before make (non-shorting); make before break (shorting) available as indicated.



SONALERT® ELECTRONIC SIGNALS

A major advance in the audible signal warning devices. Produces a penetrating sound of either 2900 Hz or 4500 Hz by utilizing the piezoelectric principle. All circuitry is solid state for maximum efficiency, lowest current requirement and high reliability. Silicon transistor oscillator drives piezoelectric transducer to produce the desired output tone. The physical characteristics of the transducer determines the output frequency; and, this cannot be altered by external means. Output intensity is directly proportional to input voltage and ranges from 68 dB at 6 VDC to 80 dB at 28 VDC. Draws only 14 mA max. (less than an indicator lamp), there are no mechanical points to arc and require maintenance, and there is no RF field generated. The Sonalert will operate in ambient temperatures from −20° C to +65° C; and, because of its solid state design, it is reliable, with a life expectancy of 10,000 hours. Used in computer systems in which stray RF could cause false readouts; in portable mine detectors in which ruggedness, minimum current and maximum reliability are prime considerations; also in aerospace projects requiring maximum efficiency and reliability. Sonalert is also used in volatile atmospheres where high density gas vapor could cause explosion. All have special silicon transistors and nylon case. Screw can be removed and solder or arkless quick-connect connections can be made. Max. panel thk. ¼". No detailed MIL spec but widely used in military and aerospace applications; ask for Bulletin 9-398 for additional details. For a 48-page booklet on Sonalert uses, request Mallory Form 9-406.



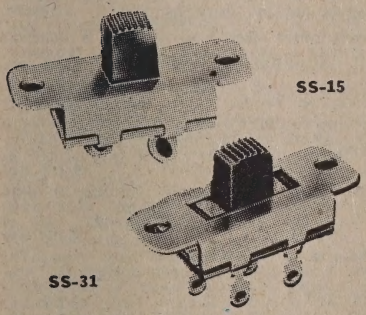


STANDARD SONALERT SIGNALS

Mallory Catalog Number#	Sound Freq., Hz*	Operating Volts DC	Operating Volts AC	Oper. Cur., mA	Sound Intensity dB	Oper. Temp., ° C•	Case Lgth., In.	Wt., Oz.	Net Each
SC628▲	2900	6–28	.....	3–14	68–80	−20+65	.812	1.25	$ 6.20
SC628H	4500	6–28	.....	3–14	68–80	−20+65	.812	1.25	7.19
SC628P▲	2900†	6–28	.....	3–14	68–80†	−20+65	1.375	2	11.24
SC628A	2900	6–28	6–28	3–14	68–80	−20+65	1.375	2	9.92
SC110▲	2900	30–110	30–110	4–16	68–80	−20+65	1.375	2	9.92
SC628HP	4500†	6–28	.....	3–14	68–80	−20+65	1.375	2	12.23
SC628AH	4500	6–28	6–28	3–14	68–80	−20+65	1.375	2	10.92
SC628AP	2900†	6–28	6–28	3–14	68–80†	−20+65	1 937	2.75	14.96
SC628AHP	4500†	6–28	6–28	3–14	68–80†	−20+65	1.937	2.75	15.96
SC110H	4500	30–110	30–110	4–16	68–80	−20+65	1.375	2	10.92
SC110P	2900†	30–110	30–110	4–16	68–80†	−20+65	1.937	2.75	14.96
SC110HP	4500†	30–110	30–110	4–16	68–80†	−20+65	1.937	2.75	15.96
SC628W‡	2900†	12–28	.....	3–14	68–80†	−20+65	1.375	2	12.29
SC648	2900	6–48	.....	14	80	−20+65	.812	1.25	7.88
SC250	2900	250	250	14	80	−20+65	1.375	2	10.71
SC6A24§	2900	6–28	.....	3–14	68–80	−20+65	.812	1.25	6.72

*Tolerance: ± 500 Hz. †Pulsating 2 to 5 Hz. ‡Warbler unit; use SC628 or SC628H. §With wire leads for automotive applications. #Suffix indicates: None = 2900 Hz; **H** = 4500 Hz; **A** = AC/DC model; **P** = Pulsating model; **W** = Warbling model. All are complete with special silicon transistors, standard black nylon nose ring and nylon case. •−40° C to +85° C available on special order. Order no. **CNRI** at **$0.29** for natural aluminum nose ring; **BNRI** at **$0.62** for black anodized aluminum ring or **PNRI** at **$0.12** for black plastic nose ring. ▲UL Yellow Card Approval.

STACKPOLE SLIDE SWITCHES



Ratings UL Recognized. All switches maintain contact with detent unless otherwise specified. **Size:** Case A, .531" w. x 1.375" lg.; Case B, .531" w. x 1.89" lg.; Case C, .531" w. x 1.656" lg. **Knob:** Black, 11/64" above case. Also available in 1/4" and 19/64" sizes and other colors. Prices on request. Solder terminals standard; printed circuit terminals available. Type SS-5 is available with a 3/16" beveled knob and prong guide for use as a battery line changeover switch.

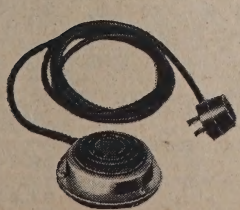
PRICES AND SPECIFICATIONS

Extruded and tapped mounting holes, on-off indicating dots, shields, insulators, solder guards and wire leads are available at additional cost. Write for complete information.

Stackpole Number	Amps at 125 V AC	Amps at 125 V DC	Contacts	Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499*
SS-5†	6	0.5	DPDT	B	$1.25	$0.75	$0.50	$0.247
SS-9-3‡	6	1	SPDT•	A	1.00	.60	.35	.187
SS-12	6	1	4PDT	B	1.25	.75	.50	.364
SS-15§	3	.....	SPST	A	1.00	.60	.35	.20
SS-16†	6	0.5	DP3T	B	1.25	.75	.50	.223
SS-18	6	1	DP4T	B	1.25	.75	.50	.247
SS-26	4	1	SPST	A	1.00	.60	.35	.146
SS-26-1	4	1	SPDT	A	1.00	.60	.35	.149
SS-31	6	1	SP3T	A	1.00	.60	.35	.188
SS-33	6	0.5	DPDT	B	1.25	.75	.50	.22
SS-34	6	.....	3PDT	B	1.25	.75	.50	.307
SS-36	6	1	SPST	A	1.00	.60	.35	.164
SS-36-1	6	1	SPDT	A	1.00	.60	.35	.164
SS-37*	10	.....	SPST	A	1.25	.75	.50	.215
SS-37-1*	10	.....	SPDT	A	1.25	.75	.50	.233
SS-38*†	6	0.5	DP3T	B	1.25	.75	.50	.247
SS-40‡	3	.....	SPST	A	1.25	.75	.50	.252
SS-40-1‡	3	.....	SPDT	A	1.25	.75	.50	.26
SS-50*	3	0.5	DPDT	A	1.00	.60	.35	.164
SS-54	3	0.5	DP3T	C	1.25	.75	.50	.212

*All items CSA approved, except SS-15, SS-40, SS-40-1 and SS-54. †Available with extra terminal for additional circuit in number 1 position. ‡Spring return, no detent. §Pushbutton, momentary, no detent. •Also available SPST. *Larger quantities available, write for prices.

IDEAL FOOT SWITCHES



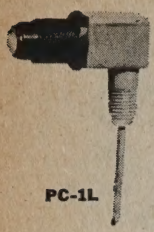
For production soldering. Eliminates arcing at electrodes on contact. Permits using electrodes to hold work in position after turning off heat. Wired normally open. Rated at 5 amps, 115 V. **Size:** 1⅛" h. x 3⅝" dia. Shipping Weight, 12 oz. Complete with 6-ft., 3-cond. grounded cord and plug.

Ideal Model 12-146 Foot Switch—Net Each..... **$15.00**

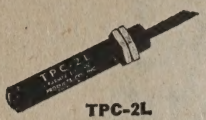
Ideal Model 38-004 Foot Switch—Rated 30 amps, 250 V. Shipping Weight, 6½ lbs. Net Each..... **$90.85**

CONSULT OUR STAFF OF ELECTRONICS EXPERTS ON ALL YOUR SPECIAL EQUIPMENT OR COMPONENT NEEDS.

MICRO SWITCH Photoelectric Components

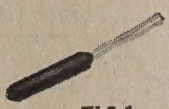


PC-1L



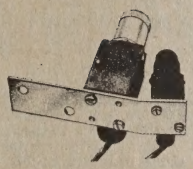
TPC-2L

LS-1C



TLS-1

TLS-3



26-093 Reflected-Light Bracket

Micro Switch photoelectric components use the modular concept for a wide range of design possibilities to meet specific requirements. Complete system consists of a light source and photocell receiver, a control chassis, a FE-TR Series logic module, and a relay for output switching.

PHOTOCELL RECEIVERS

FE-PC1L MINIATURE PHOTOCELL RECEIVER

Uses cadmium selenide plug-in photocell. Unique lensholder provides ambient-light protection by means of internal aperture located at focal length of the lens. Lensholder mechanically centers and firmly secures the photocell. Mounts with two 6-32 tapped mtg. holes, in panel, or directly onto conduit by ¼″ pipe thread. Has 8-ft. 2-conductor shielded cable. Size, 1″ x 1 1/16″ x 2¼″ overall. Splash-proof type on request.

Model FE-PC1L Photocell Receiver—Net Each..... **$19.80**

FE-TPC2L TUBULAR PHOTOCELL RECEIVER

Miniature tubular, waterproof photocell receiver. Optical system with internal aperture provides a narrow field of vision (approx. 10°) for suppression of ambient light. Can be mounted with standard mounting accessories. Has 8-ft. 2-cond. shielded cable. Size, .375″ dia. x 2½″ long. With two locknuts.

Model FE-TPC2L Photocell Receiver—Net Each..... **$17.20**

FE-TPC0L SUBMINIATURE PHOTOCELL

Smallest photocell unit available. Can be inserted in 0.257″ dia. hole or held in standard fuse clips. Similar in appearance to FE-TLS1 light source. Internal aperture reduces effects from ambient light. Waterproof cadmium selenide photocell is permanently sealed in epoxy.

Model FE-TPC0L Photocell—Net Each..... **$15.80**

SPECIAL PHOTOCELL RECEIVERS

Model FE-TPC2LBG Registration Control Photocell—Designed for registration control use in FE-RL1M bracket; especially for detecting various colored marks which include red pigments. Special color filter enables photocell to differentiate between colors in the visible spectrum. Photocell is permanently encapsulated in epoxy and waterproof. Net Each..... **$22.85**

Model FE-TPC3L Narrow View Photocell—Special long focal-length lens and internal aperture restrict photocell vision to 4° spherical angle. Can be used under unusually bright ambient light, or to discriminate between varying angles of reflected light. Epoxy encapsulated. Net Each..... **$22.85**

Model FE-TPC4LF High Speed, High Temperature Photocell—Has silicon photo-transistor for high speed and excellent sensitivity. Rise and delay time, approx. 100 times faster than cadmium selenide photocell. For use at temperatures up to 302° F. Epoxy encapsulated; waterproof. Net Each..... **$22.85**

Model FE-PC1LBG Photocell—Combines color filter of FE-TPC2LBG with standard FE-PC1L mounting. Net Ea.. **$30.50**

Model FE-PC4LF Photocell—Similar to FE-PC1L but accepts FE-PT1 plug-in photo-transistor. Net Each..... **$27.90**

Model FE-PT1 Photo-Transistor—Net Each..... **$39.90**

PHOTOELECTRIC LIGHT SOURCES

FE-LS1C MINIATURE LIGHT SOURCE

Has adjustable-focus light beam with #12 lamp rated in excess of 5000 hours life when operated at 0.15 amp, 6.3 volts AC or DC. Includes 8-ft. 2-conductor cable with #20 insulated wire leads. Two 6-32 tapped mounting holes; can also be panel mounted, or direct mounted onto conduit by ¼″ pipe thread. Size, 1″ x 1 1/16″ x 1 15/16″ maximum. Splash-proof type on request.

Model FE-LS1C Light Source—Net Each..... **$14.10**

FE-LS2C LIGHT SOURCE

Slightly larger than type FE-LS1C, with a #210 lamp and approximately five times the scanning range. Operates at 4.5 volts AC, 1.5 amps, with life in excess of 10,000 hours, when used with Model FE-TRB control chassis. Has 8-ft. 2-conductor cable. Two 8-32 tapped mounting holes; can also be panel mounted or direct mounted onto conduit by ¼″ pipe thread. Size, 1 7/16″ x 2¼″ x 3 15/16″ maximum. Splash-proof type available on request.

Model FE-LS2C Light Source—Net Each..... **$22.60**

FE-TLS3 TUBULAR LIGHT SOURCE

Small size, adjustable-focus tubular light source permits sharp focus of spot for close registration control, or normal focus for scanning up to 3 feet. Ideal for limited space applications; can be inserted into 0.377″ dia. holes drilled in equipment, in a mounting block, or snapped into standard miniature fuse clips. Can be mounted in type FE-RL1M reflected-light bracket for registration control, or used with FE-SM1 omnidirectional swivel-mount and FE-AG1 armor-grip cable. Type #2307 plug-in lamp is rated in excess of 5000 hours life at 6.3 volts, 200 mA. Has 8-ft. 2-conductor cable. Size, ½″ dia. x 2 7/32″ long maximum. Mounts in ⅜″ dia. panel hole, in panels to ½″ thick (for ⅛″ x 1/32″ spot at ¾″ distance), ⅜″ thick (for sharp focus at distance of 4 feet), or 3/16″ thick (for round spot).

Model FE-TLS3 Light Source—Net Each..... **$12.15**

FE-TLS1 SUBMINIATURE LIGHT SOURCE

Smallest light source available. Can be inserted into 0.257″ dia. hole or held in fuse clips. Lamp life, 100,000 hours at 5 volts AC, 60 mA. Waterproof lamp permanently sealed in epoxy. 8-ft. insulated wire leads. Size, .250″ dia. x 1 1/32″ long.

Model FE-TLS1 Light Source—Net Each..... **$10.30**

SPECIAL LIGHT SOURCES

Model FE-TLS1M Subminiature Light Source—Unit is identical in size to FE-TLS1, but with approx. double the lamp intensity. Rated 25,000 hours life at 5 volts AC, 115 mA. Net Ea... **$12.75**

Model FE-TLD3 Solid State Light Emitter—Uses plug-in cartridge. Has adjustable focusing. Net Each..... **$24.50**

Model FE-TLS2 Subminiature Light Source—Lamp is the same as FE-TLS1, but with housing modified for use with FE-SM1 swivel mount or FE-AG1 armor-grip cable. Can be inserted in 0.375″ dia. hole or held in fuse clips. Net Each..... **$11.25**

Model FE-TLS3FF Fine Focus Light Source—Similar to light FE-TLS3, but with fine focus lensholder. Provides very sharp light spot approx. 1/64″ wide for detection of very small parts, such as thin wires. Net Each..... **$14.50**

Model FE-LS1LC Medium Range Light Source—Unit is mounted in small housing to operate between the ranges of FE-LS1C and FE-LS2C, where space is at a premium. Plug-in #15 lamp rated 10,000 hours at 5.5 VAC, 340 mA. Net Each..... **$17.10**

Model FE-LS2SC High Intensity Spot Light Source—Provides high-intensity spot projection of the filament, sharply focused at distances between 4″ and 6″ from end of lens. Spot size, approx. ⅜″ x 1/16″. Net Each..... **$33.30**

Model FE-LS3 Long Range Light Source—Used for scanning distances up to 50 feet. Low-voltage, high-intensity lamp with transformer for operation from 115 VAC, 50/60 Hz. Life of #88 lamp, 10,000 hours. Splash-proof, gasketed cast aluminum housing. Full 180° adjustment in both horizontal and vertical planes; positive locking. Net Each..... **$59.15**

PHOTOELECTRIC MOUNTING ACCESSORIES

Model FE-AG1 Armor-Grip—For FE-TLS3, FE-TPC2L, etc. With locknut bushing, 8-ft. metal cable. Net Each..... **$6.60**

Model FE-SM1 Swivel Mount—For light sources FE-TLS3 and FE-TLS2; photocells FE-TPC2L, etc. Holds any tubular lensholder, adjusts horizontally and vertically. Net Each.... **$5.80**

Model FE-RL1M Reflected-Light Bracket—Secures FE-TLS3 and FE-TPC2L, FE-TPC2LBG or FE-TPC4LF receiver in proper relation to pick up registration marks or very small objects at distances from ¼″ to ⅜″. Net Each..... **$13.15**

Model FE-RL2 Reflected-Light Bracket—Secures FE-TLS1 or FE-TLS1M light source and FE-TPC0L photocell for diffuse reflected scanning at ¼″. Net Each..... **$10.25**

Model FE-BRKT26-093 Reflected-Light Bracket—For FE-LS2C and FE-PC1L at 2–6″ distance. Net Each..... **$2.70**

Model FE-BRKT26-195 Reflected-Light Bracket—For FE-LS2C and FE-PC1L at fixed 3″ distance. Net Each..... **$4.45**

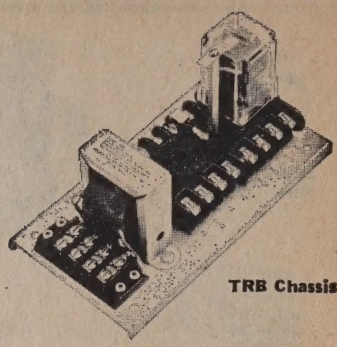
External Apertures—For FE-TPC2L, FE-TPC4LF, etc. Detects small parts down to .002″ dia. Choice of sizes.
⅛″ Size, Net..... **$1.45** .040″ or .020″ Size, Net..... **$2.90**

MICRO SWITCH LOGIC MODULES AND CONTROL UNITS

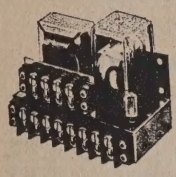
FE-TR SERIES LOGIC MODULES

For modular design of photoelectric controls. Any FE-TR Series module can be plugged into one common control chassis to provide desired logic function (on-off, relay latch-in, one-shot output, time delay, stop-motion, divisor, etc.). Can be actuated by a photocell, limit switch, or any resistance-type transducer. Output can be used to operate a relay, reed switch, Sincos® switch, counter, or another logic module. Building-block approach allows simple development of multiple logic functions using two or more logic modules. Each module includes a sensitivity control, time control (where applicable) and slide switch to allow output to turn On for either increased resistance (dark operation) or decreased resistance (light operation). Highly stable and reliable silicon semiconductors used throughout; temperature-compensated and regulated DC voltage for critical circuits. Filtering circuits provide maximum protection against false triggering due to ambient electrical-noise levels. All modules (except time delay) have circuit response time measured in a few microseconds. System reaction time is dependent upon the transducer, logic module and switch type used. **Signal Input:** Photocell, limit switch, or output from another FE-TR Series module. **Output:** 12–16 VDC, 150 mA max., flip-flop. **Timing Accuracy:** Less than 2% variation with line voltage changes from 90–130 V. **Interrogate Methods:** Provision for electrically interrogating input and disabling output. **Reset Time:** Less than 10 msec. **Sensitivity:** Threshold-responsive (DC coupled) except FE-TR4 and FE-TR1500A, transition-responsive (AC coupled). **Power Input:** 9–16 VAC, 50/60 Hz or 12–20 VDC, 3 watts max. FE-TRB Series chassis provides 15 VAC. **Temperature Range:** −40° F to +158° F. **Size:** Octal plug-in module, 3¾″ x 2⅛″ x 2⅛″. Plugs into FE-TRB chassis./

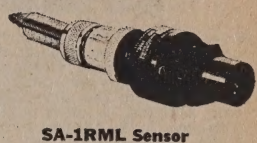
TR Series Module



TRB Chassis



PE-2 Relay



SA-1RML Sensor

GENERAL PURPOSE ON-OFF MODULES

Model FE-TR3 On-Off Module—General purpose modular control responds instantaneously to change of light or dark. Net Each..... **$47.35**

Model FE-TR3-1 Electronic Relay Latch-In Module—Upon receipt of signal, module output is electronically latched on. Reset by closing an external, normally open contact. Minimum signal duration to operate, 1 msec, when using a fast transducer (photo-transistor). Net Each..... **$50.95**

Model FE-TR3-3 Narrow Differential Logic Module—For On-Off applications requiring a very small (1%) signal change. Requires closely regulated 18 VDC supply; light source requires regulated 5–6 VDC supply. Net Each..... **$50.95**

Model FE-TR3-4 High Sensitivity Logic Module—For On-Off applications requiring high-gain amplification for very low levels of light on photocell. Includes additional vernier sensitivity control. Net Each..... **$65.50**

Model FE-TR3-4L High Sensitivity Electronic Relay Latch-In Module—Similar to FE-TR3-1, but with high gain amplification and vernier sensitivity control. Net Each..... **$69.15**

TIMING LOGIC MODULES

Model FE-TR4 "One-Shot" Output, Rate-of-Change Responsive Timing Module—Highly sensitive transition-responsive (AC coupled) module for registration control or other extremely fast signals. Pulse-stretching circuit permits response to signal duration of 0.1 msec, produces "one-shot" output adjustable 10–250 msec for energizing a relay. Responds to light interruptions of 1 msec using photoresistive cell; less than 0.1 msec using high-speed photo-transistor. Operates on objects moving at least 2″ per second. Net Each..... **$82.55**

Model FE-TR4-2 "One-Shot" Output, Threshold Responsive Timing Module—DC coupled module with "one-shot" output adjustable 10–150 msec, independent of actual signal-duration interval. Responds to predetermined photocell-resistance level rather than sudden change in light value, for very slow as well as moderately fast moving objects. Will respond to signals of 0.1 msec with high-speed photo-transistor, or 10 msec with cadmium selenide photocell. Net Each..... **$82.55**

Model FE-TR4-2L Electronic Relay Latch-In, Non-Repeat Threshold Responsive Module—Similar to FE-TR3-1, but with non-repeat feature of the FE-TR4L (below). Net Each **$82.55**

Model FE-TR4L Electronic Latch-In, Rate-of-Change Responsive, Non-Repeat Timing Module—Identical to FE-TR4 except that when signal is received, module is electronically latched On until reset by opening an external contact. Net Each.. **$82.55**

DELAY MODULES

Model FE-TR5 On-Delay Module—For protection against jam-up on conveyors, etc. Normal flow of material or parts will not turn module On. If light beam is interrupted (or restored) for more than the pre-selected time interval, output will turn On to operate a relay. Time adjustable from 0.5 to 12 seconds; ratio between maximum and minimum time, 120:1. Independent sensitivity control allows operation on translucent as well as opaque objects. Net Each..... **$68.00**

Model FE-TR5R Off-Delay Module—Design allows relay to drop out rather than energize after an adjustable time interval. When set for light operation, relay energizes immediately with light on the photocell and remains energized until light beam is interrupted for an interval adjustable from 0.5 to 12 seconds; ratio of max. to minimum time, 120:1. Net Each..... **$68.00**

Model FE-TR5-14 Dual Time Delay Module—Precise On- and Off-Delay unit for jam-up protection. If light beam is interrupted (or restored) for more than pre-selected On time delay, module output will turn On to operate a relay. When light beam is returned to original condition, input of the module senses immediately, but output is held On for another adjustable Off-delay interval, allowing parts to clear the scanning area. On and Off times are independently adjustable, 0.5 to 12 seconds. Ratio of maximum to minimum time, 60:1. Separate sensitivity adjustment for scanning translucent as well as opaque objects. Net Each.. **$92.25**

FE-TR6 STOP-MOTION CONTROL MODULE

For stop-motion control of moving parts. As long as parts interrupt and restore the light beam within a predetermined time interval, the module output remains On. If motion stops longer than the pre-set interval, output will turn Off, dropping out a relay to signal an alarm. Interval is adjustable from 0.5 to 12 seconds; ratio of maximum to minimum time, 120:1.

Model FE-TR6 Stop-Motion Module—Met Each..... **$82.55**

Model FE-TR8 Delayed "One-Shot" Module—Combine functions of FE-TR3-1 memory latch and FE-TR5-14 On delay/Off delay. Net Each..... **$97.05**

FE-TRB SERIES CONTROL CHASSIS

Open-style chassis, for use with FE-TR Series logic modules. For 100–130 VAC, 50/60 Hz, except as indicated.

Model	Description	Net Each
FE-TRB	Includes DPDT plug-in relay	**$43.30**
FE-TRB-LRY	No relay; for Sincos® switch or plug-in reed relay	**33.65**
FE-TRB-1	For use with one FE-SA1RML, FE-TLS1, FE-TLS1M or FE-TLS2 light source	**44.50**
FE-TRB-2	Electromechanical counter chassis	**96.20**
FE-TRB-3	Heavy duty SPDT; 25 amps at 115 VAC	**56.55**
FE-TRB-T230	DPDT relay, for 230 VAC, 50 Hz	**46.90**
FE-TRBL	FE-TRB chassis with extra plug-in socket	**51.75**
FE-TRBL-12	Additional lamp burn-out safety relay for FE-LS2C with #210 lamp	**75.75**
FE-TRBL-12A	Additional lamp burn-out safety relay for FE-R3, FE-LS1LC with #15 lamp	**73.75**
FE-TRB-14	1.8 V secondary for up to 7 FE-SA1RML's	**48.05**
FE-TRB-15	City of Los Angeles approved chassis, with 10″ x 6″ x 4¼″ hinged cover enclosure	**70.95**
FE-TRBXL-LRY	4-socket chassis with no relays or wiring; specify 115 or 230 VAC	**54.10**
FE-30-134	FE-TRBXL chassis wired as dual FE-TRB with two S2443 relays; specify 115 or 230 V	**85.35**

FE-PE2 PHOTOELECTRIC RELAY

Compact, low-cost, fully transistorized control for counting, monitoring and limit switch operation. Can be operated by a variety of remote scanners with a range up to 12 feet. Plug-in relay is capable of speeds to 600 operations per minute. Amplifier is temperature-compensated and voltage-regulated with a flip-flop output. Addition of a 6-volt capacitor (at least 100 μF for each second) will provide a fixed time delay on relay drop-out (Off delay). Relay is energized immediately when photocell is light. DPDT relay rated 8 amps non-inductive, 115 VAC. Ambient temp., 60° C max. Size, 3¼″ x 2¼″ x 3″.

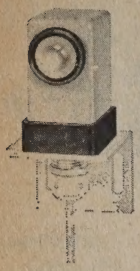
Model FE-PE2 Relay—Net Each..... **$62.05**

PHOTOELECTRIC PROXIMITY SENSOR

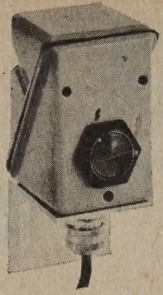
Self-contained, compact, sensitive reflective detection device for counting and web-break control applications. Black anodized aluminum housing contains long-life lamp and socket, light source, plug-in photocell, and an infrared filter to minimize effects of ambient fluorescent light. Responsive to both metallic and non-metallic objects. Most effective in detecting the presence of objects moving at slow to moderate speeds. Cadmium selenide photocell with 75 mW max. dissipation, 60 V max. Uses #4 lamp, rated 5000 hours life at 2 VAC. Requires FE-TRB-1 chassis plus any FE-TR Series logic module. Threaded sensor-head case permits mounting in ¾″ dia. hole, in panels ½″ to ½″ thick. Flexible 8-ft. 4-cond. cable. Size, 1⅛″ dia. x 4½″.

Model FE-SA1RML Sensor—Net Each..... **$47.25**

MICRO SWITCH RETROREFLECTIVE EQUIPMENT



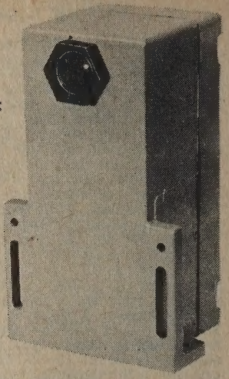
Retro-3T Scanner



Retro-5T Scanner

TR1R Scanner

Watertight Control



Retro-4A Scanner

FE-R3 RETROREFLECTIVE SCANNERS

Small retroreflective photoelectric scanners contain a light source and photocell in a single housing, for easy installation and maintenance. When used with any suitable retroreflective target, the emitted light rays are reflected back into the photocell at any angle up to 45° from the target. Designed for use with Series FE-TR logic modules, or other solid-state control amplifiers. Scanning distances up to 10 feet can be obtained using Type FE-RR1 3″ dia. retroreflective disc. Steel enclosure is gasketed and constructed to meet requirements of NEMA-12. Includes 8-ft. 4-conductor color-coded cable. Size, 5″ x 1 15/32″ x 2 3/8″ overall, approx. Order retroreflective targets separately, below.

Model FE-R3T Scanner—Standard model with high speed, low resistance cadmium-selenide photocell, 100 volts max. Power dissipation, 50 mW at 25° C. #15 lamp requires 5.5 V at 0.34 amp; life, 10,000 hours approx. Net Each..... **$50.05**

Model FE-R3AT Fast Responsive Scanner—Similar to FE-R3T producing sharp spot of light approx. 1½″ from lens, with silicon photo-transistor for fastest response. Can be used to detect small retroreflective tapes on a rapidly rotating shaft. Capable of picking up signals in reflection times of less than 1 msec. Requires 6 VDC power on lamp to eliminate cell response to AC ripple. Net Each..... **$64.65**

Model FE-R3AB6 Registration Control Scanner—Identical to FE-R3T, but uses a special blue-green filter over the photocell for use in registration control applications. Differentiates between red and white colors, including colors containing a small amount of red. High speed cadmium-sulfide photocell. Net Each.. **$76.05**

FE-R5T RETROREFLECTIVE SCANNERS

Extended range, standard retroreflective scanner features rugged, watertight (NEMA 4) case to withstand shock, vibration, water soaking. Unit contains light source and photocell in a single enclosure for easy installation and maintenance. Allows scanning distances up to 20 feet (6 meters). When used with suitable reflective target, scanner will sense light rays reflecting at any angle up to 45 degrees from center. Lamp life expectancy in excess of 10,000 hrs. (Replaceable #210 bulb). Plug-in phototransistor operates at ambient temperatures up to 122° F (50° C). Size, 5 5/8″ x 2 5/8″ x 3 13/32″ overall.
Model FE-R5T Retroreflective Scanner—Net Each.... **$58.10**

Model FE-R5B6 Type 3—Includes all features of FE-R5T plus a blue-green filter over a high-speed cadmium sulfide photocell for registration-control applications where differentiation between red and white is desired. Net Each..... **$79.35**

Model FE-R5T Type 2—Includes all features and specifications of FE-R5T except for scanning range. Ideal for reading retroreflective tape coding on moving containers at approximately 8 inches (203 mm). Net Each..... **$59.40**

Model FE-R5T Type 3—Same as FE-R5T except for scanning range. Provides intense light spot of 2 inches (51 mm) and may reflect light from most material and colors. Retroreflective targets may not be necessary. Net Each..... **$69.50**

FE-TR1R SERIES RETROREFLECTIVE SCANNERS

Compact and reliable photo relays contain a light source, photocell, transistorized amplifier, plug-in relay, and power supply transformer; all in a single NEMA-12 steel enclosure. Operation is possible over a distance of 10 feet, using type FE-RR1 3″ dia. retroreflective target (other targets listed below). Gasketed lens assembly can be unscrewed and one-piece drawn-steel enclosure removed for complete access to the plug-in relay, light source and time delay adjustment. Pre-wired 8-ft. 5-conductor color-coded cable for fast field installation. Solid-state circuitry; plug-in SPDT relay rated 5 amps, 115 VAC, non-inductive. **Ambient Temperature:** 60° C max. **Power Required:** 115 VAC, 50/60 Hz; 230 VAC models available at **$11.60** additional. **Size:** 7 13/16″ x 2 3/8″ x 2 3/4″ including mounting bracket.

Model FE-TR1R On-Off Control—General purpose On-Off control energizes immediately with light on the photocell, de-energizes when beam is blocked. Produces up to 600 on-off operations per minute with light beam completely blocked and restored for an equal time between counts. Net Each..... **$87.70**

Model FE-TR1R-DP On-Off Control—Same as above, but with DPDT relay. Net Each..... **$93.90**

FE-R4A RETROREFLECTIVE SCANNERS

Completely sealed, compact, self-contained photoelectric controls contain a small but powerful light source and receiver which is aimed at a retroreflective disc (included), plus a solid state plug-in logic (LOG) card and DPDT plug-in relay rated 10 amps non-inductive at 115 VAC. Can be used for scanning distances of 15 feet; alignment with disc is noncritical. Adjustable sensitivity and time controls. Readily accessible terminal panel with screw terminals for all external connections. Waterproof gasketed cast aluminum enclosure is dust-tight, oil and coolant resistant (NEMA 4, 5 and 12). All units may be remotely disabled for interrogate functions. **Lamp Life:** 10,000 hours (#1424 lamp). **Ambient Temperature:** −50° to +122° F. **Power:** 15 VA, 105–130 VAC, 50/60 Hz. Optional lens-holder and LOG cards available to meet most photoelectric control requirements. **Size:** 8″ x 5″ x 4 3/8″ overall.
Model FE-R4A Retroreflective Scanner—Net Each.... **$85.95**

STANDARD LOGS

The FE-R4A features a wide variety of solid state amplifiers to suit various applications. They are mounted on individual plug-in logic cards referred to as LOGS and must be specified when ordering the FE-R4A.

Model FE-LOG 3 On-Off Control—Net Each..... **$23.40**
Model FE-LOG 3-1 Electronic Latch-In Control—Net Each..... **26.75**
Model FE-LOG 3-4 High Sensitivity On-Off Control—Net Each..... **48.85**
Model FE-LOG 3-4L High Sensitivity Electronic Latch-In Control—Net Each..... **$44.15**
Model FE-LOG 4 "One-Shot" Output, Rate-of-Change Responsive Control—Net Each..... **$48.85**
Model FE-LOG 4-L Electronic Latch-In, Rate-of-Change Responsive Non-Repeat Control—Net Each..... **$48.85**
Model FE-LOG 4-2 "One-Shot" Output Threshold Responsive Control—Net Each..... **$48.85**
Model FE-LOG 4-2L Electronic Latch-In Non-Repeat, Threshold Responsive Control—Net Each..... **$48.85**
Model FE-LOG 5 On-Delay Control—Net Each..... **48.85**
Model FE-LOG 5L Electronic Latch-In, On-Delay—Net **48.85**
Model FE-LOG 5R Off-Delay Control—Net Each..... **44.15**
Model FE-LOG 5-14 On-Off Delay Control—Net Each. **56.95**
Model FE-LOG 6 Stop-Motion Control—Net Each.... **56.95**
Model FE-LOG 8 Momentary Start, Delayed "One-Shot"—Net Each..... **$61.60**
Model FE-LOG 8A Sustained Start, Delayed "One-Shot" Control—Net Each..... **$61.60**
Model FE-LOG 8B Momentary Start, Non-Repeat Delayed "One-Shot" Control—Net Each..... **$63.90**

FE-R4C RETROREFLECTIVE SCANNER

Low-cost economy model retroreflective scanner provides On-Off control, scans up to 15 feet. Features NEMA circuit board grades 4, 5, and 12. Durable cast aluminum housing contains amplifier, photocell, light source, SPDT 10-amp relay, transformer. UL listed.
Model FE-R4C Retroreflective Scanner—Net Each.... **$58.45**

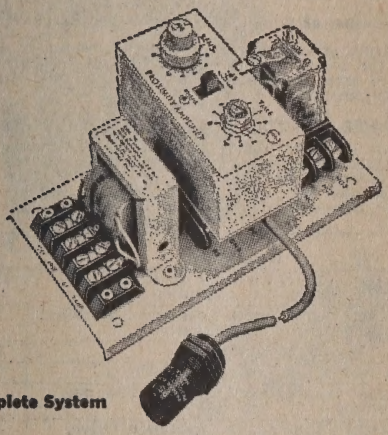
RETROREFLECTIVE TARGETS

For use with all retroreflective scanners. Unaffected by water or oil. Smooth surfaces resist accumulation of dirt. Ambient temperature: 150° F maximum continuous for plastic disc targets, 200° F for FE-RR2 tape.

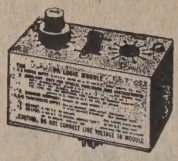
Model No.	Description	Scanning	Net Each
FE-RR	3″ dia. molded acrylic plastic disc with mtg. hole, metal base	10′	$2.05
FE-RR	1″ x 2″ #3270 "Scotchlite" Tape	18″	.17
FE-RR	1″ dia. plastic disc (no mtg. holes)	3′	.61
FE-RR	½″ dia. plastic disc (no mtg. holes)	18″	.61

MICRO SWITCH METAL DETECTION, SOLID STATE TIMER

PROXIMITY METAL DETECTOR SYSTEM



Complete System



PA Module

PS1 Sensor

PS3 Sensor

PLS-1.5 Loop

Proximity metal detector control consists of a sensor, FE-PA Series plug-in logic module, and Model FE-TRB control chassis with DPDT relay or Model FE-TRB-2 counter chassis with plug-in counter. For detecting, counting and monitoring any size or shape of ferrous and non-ferrous metallic parts, including thin metallic foil splicing tapes. Detects metal within non-metallic containers. Ambient temperature, 68° to 122° F without changing sensitivity; 0° to 140° F may require adjustment.

Model FE-TRB Control Chassis—Net Each..... **$43.30**

Model FE-TRB-2 Counter Chassis—Net Each..... **$96.20**

FE-PA SERIES LOGIC MODULES

Plug directly into Model FE-TRB control chassis, or FE-TRB-2 counter chassis. Slide switch for forward or reverse operation (actuation by presence or absense of metal). Fine and Coarse sensitivity control. **Voltage In:** 12–20 VDC or 9–16 VAC (on FE-TRB chassis). **Voltage Out:** 12 VDC (125 mA maximum) except Models FE-PA1500B and FE-PAIC-12, 250 mA maximum.

Model FE-PA3 General Purpose Module—On-Off device responds directly to presence or absence of metal in field of the sensor. Net Each..... **$68.45**

Model FE-PA3-1 Electronic Latch-In Module—Latches On upon receipt of input signals as short as 1 msec. External reset. Net Each..... **$71.35**

Model FE-PA4 "One Shot" Module—Senses signals of 1 msec and produces a stretched pulse up to 200 msec for sufficient relay dwell to operate clutch, etc. Net Each..... **$88.10**

Model FE-PA1500B Counter Driver Module—Similar to FE-PA4, but produces fixed 20 msec pulse of sufficient power to operate 6-digit counter on the FE-TRB-2 counter chassis. Max counting rate, 1500/minute Net Each..... **$88.10**

Model FE-PA5 On Delay Module—In forward operation, output is not energized until metal has been in front of sensor for a pre-selected time, adjustable from 0.5 to 12 seconds. Net Each..... **$88.10**

Model FE-PA5R Off Delay Module—In forward operation, relay energizes instantly when metal is in field of sensor. Relay will drop out after a pre-selected time delay (0.5–12 sec) when metal is not in sensing area. Net Each..... **$88.10**

Model FE-PAIC-2 Divide by 2 Module—Drives DPDT relay on FE-TRB chassis so each incoming signal will alternately switch the relay On, then Off. Net Each..... **$95.05**

Module FE-PAIC-10 Divide by 10 Module—Energizes counter coil or relay on fifth count, de-energizes on tenth count. FE-TRB-2 counter chassis records one digit for every 10 signal inputs. When operating a relay and divider gate, can separate metal pieces in batches of five. Net Each..... **$124.45**

Model FE-PAIC-12 Divide by 12 Module—Similar to FE-PAIC-10 but counts by the dozen. Net Each..... **$135.65**

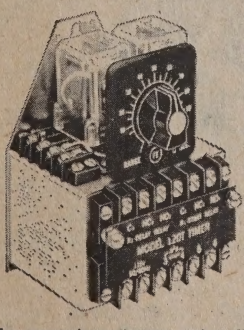
PROXIMITY METAL SENSORS

For use with FE-PA Series logic modules and FE-TRB or FE-TRB-2 chassis. FE-PS types are standard sensors; FE-PLS types are proximity loops. Supplied with 8-ft. coaxial cable attached.

Model	Pass By Detection*	Pass Through Detection, Minimum Size Steel Piece†	Size, Inches	Net Each
FE-PS1	0.3″	.....	1 1/16 dia. x 1 3/8	$23.75
FE-PS2	0.1″	.....	3/8 dia. x 1	19.55
FE-PS3	1.5″	.....	3 5/8 x 2 5/16 x 1 5/16	50.35
FE-PLS0.40	.....	0.02″ x 1/2″ wire	0.40 Loop I.D.	50.35
FE-PLS0.75	0.8″	0.03″ x 1/2″ wire	0.75 Loop I.D.	50.35
FE-PLS1.5	1.8″	#10 x 1/2″ set screw	1.50 Loop I.D.	50.35
FE-PLS3	2.2″	4/16″ x 1″ R.H. screw	3.0 Loop I.D.	50.35
FE-PLS6	3.0″	1/2″ x 1″ R.H. bolt	6.0 Loop I.D.	54.50

*Distance for 2″ x 2″ x 1/32″ steel sheet. †Pass through detection with 4″ free fall drop.

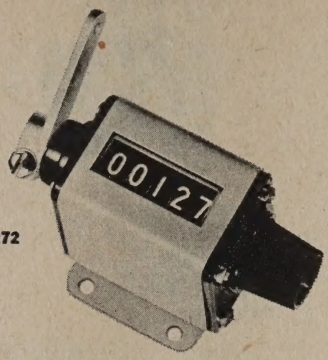
MODEL FE-120T SOLID STATE TIMER



Three timers in one: delay timer, interval timer, and delayed one-shot timer. Voltage-regulated solid state unijunction timing circuit with SCR to drive the delay relay for excellent timing accuracy during load voltage changes. Two identical plug-in load relays are interchangeable and easily replaceable. Two sets of isolated SPDT load contacts rated 8 amps non-inductive. Varied actions: Momentary start (with either automatic or manual reset); sustained start; repeat-cycle timing; emergency timing out. Immediate recycling; full timing accuracy on next cycle. Removable time control potentiometer with decorative dial and knob for remote mounting on control panel. **Delay Timing:** Started by momentary or sustained closure of a start switch; conversion by removing a jumper wire. Can be set up with one relay operating at the start, and one at the end of the time delay. **Interval Timing:** Contacts of starting relay energize or de-energize a load when time is started and maintain these connections until end of the time delay, regardless of whether momentary start switch is closed or open. Non-repeat, self-reset. **Delayed "One Shot" Timing:** Started by momentary closure of start switch; operates at the end of the selected time interval to make or break a circuit for a fixed interval of approximately 100 msec. Permits easy cascading of timers for multiple timing, or energizing other relays or solenoids at the end of a time interval. **Accuracy:** 2% with line voltage change of ±15%, temperature change of 25° to 50° C. **Ambient Temperature:** 60° C maximum. **Power Required:** 100–130 VAC, 50/60 Hz; 7 VA. **Size:** 3 1/4″ x 3 1/2″ x 4 7/8″ high.

Model FE-120T Solid State Timer—Specify time range desired (0.6, 2, 3, 6, 12, 24 or 48 seconds); maximum-to-minimum ratio, 50:1. Net Each..... **$94.30**

VEEDER-ROOT MECHANICAL TOTALIZING COUNTERS



7272

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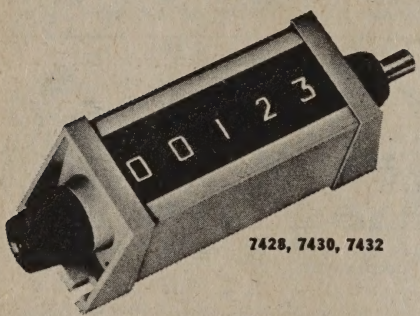
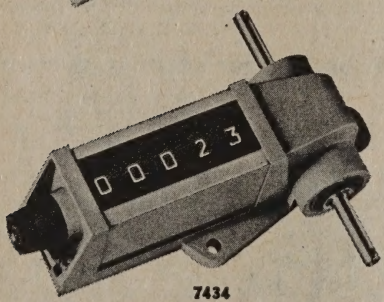
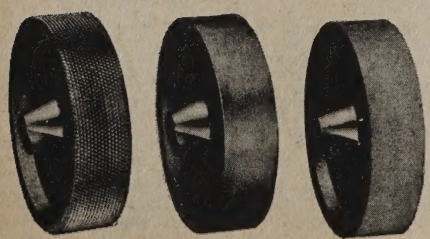


7428, 7430, 7432



7434


Wheels

- **Standard Shaft Rotations—**
- **Worm-Drive Rotations—**
- **Gearing: Number of Drive Shaft Revolutions Per One Count**

Counters, controls, printers and input devices listed represent only a portion of the broad line of stocked Veeder-Root products. Please phone or write for information covering products to meet your specific requirements.

SERIES 1976, 7272, 7287 RESET COUNTERS

Small, versatile counters offer high readability, accurate performance. Rugged, durable construction suitable for inside or outside installations. Speeds in revolution drive to 1000 rpm; ratchet drive to 1000 cpm, with harmonic motion. Ratchet drive arcs 40° to 45°. Base-mount design. Case size, 1 3/16″ w. x 1 1/4″ d. x 1 15/16″ h.

Model No.	Description†	Net Ea., 1-4*
1976	Four-Digit Counter with Lever Reset, Ratchet Drive, No. 1 Rotation	$36.61
7272	Five-Digit Counter with Lock-and-Key Reset, Ratchet Drive, 1 to 4 Rotation	23.65
	Same, but with Knob Reset	15.40
	Same, with Knob Reset, Thumb Drive	16.53
	Five-digit Counter with Ratchet Drive, but Nonreset	8.50
7287	Five-Digit Counter with Revolution Drive, 1 or 3 Rotation, Knob Reset	13.26

VISICOUNTER★ SERIES 1667, 1669 COUNTERS

High-visibility, easy-to-read, six-digit counter has large, 0.345″ high, white on black digits. Choice of knob reset, or lock-and-key reset models. Rotations 1, 2, 3 or 4. Rugged, corrosion-resistant construction for heavy-duty applications. Acetal resin wheels and pinions for long life. No lubrication required. Speeds in ratchet drive to 500 cpm; geared drive to 1500 rpm, or cpm. Ratchet drive arcs 26° to 45° for rotations 1 and 3; 42° to 67° for rotations 2 and 4. Units interchangeable with most competitive models. Base-mount design. Case size, 4 3/8″ w. x 1 7/8″ d. x 2 5/16″ h. *Tradename.

Model No.	Description†	Net Ea., 1-4*
1667	Lock-and-Key Reset, Ratchet Drive	$37.10
	Same, but with Knob Reset	24.70
1669	Knob Reset, Geared Drive, 3:1 Gearing Ratio	27.83

SERIES 7428, 7430, 7432 FIVE- AND SIX-DIGIT MEDIUM-SIZE RESET COUNTERS

Knob-reset counters with read-at-a-glance, high-visibility digits, 0.270″ high. Rugged, durable construction, suitable for almost any application. Has low torque reset, long-life bearings, lifetime lubrication. Speeds in direct drive to 200 rpm; rotary ratchet drive to 300 cpm; revolution drive to 750 rpm. Rotary ratchet drive adds in 28° to 60° arc. Rotation, 3 or 4. Base-mount design. Case size, 3 11/16″ to 4 3/16″ w. x 1 5/16″ d. x 1 5/16″ h.

Model No.	Description†	Net Ea., 1-4*
7428	Direct Drive, 5-Digit Knob Reset Counter	$36.53
7430	Revolution Drive, 5-Digit Knob Reset Counter, Sleeve Bearing	36.53
	Same, but Needle Bearing	43.56
7432	Rotary Ratchet, Sleeve Bearing, 6-Digit Knob Reset Counter	41.28

SERIES 7434 WORM DRIVE RESET COUNTERS

Right-angle shaft accepts 1-ft. circumference wheels for precise linear measuring of moving materials. Also used with couplings or plain shaft. Has standard gear ratios for yards, feet, or eighths of yards. Large, readable digits measure 0.270″ high. Maximum use of acetal resin on wheels and pinions assure smooth operation, long life. Speed to 3000 rpm, or cpm, with maximum torque of only 2 oz.-in. Rotation, 1 or 2. Case size, 5 3/8″ w. x 1 3/4″ d. x 1 5/16″ h.

Model No.	Description†	Net Ea., 1-4*
7434	5-Digit, Base Mount with Knob Reset, 1:1, 3:1, 0.375:1 Gearing Ratio	$53.70

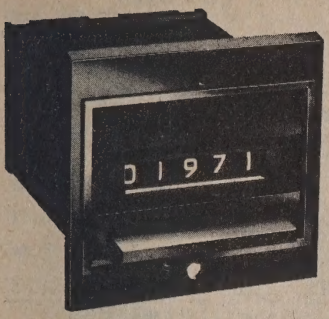
MEASURING WHEELS

Measuring wheels, 1-ft. circumference, fit counter shafts for precise linear measuring. Makes direct contact with material and provides accuracy to ±0.005″. Mates with 1/4″ or 5/16″ shaft. Cast aluminum construction with set screw. Available in 1/2″ or 1″ widths; 0.251″ bore, or 0.3125″ bore. Choice of smooth, knurled, rubber, or grooved wheel surfaces. Grooved wheels available in 1/2″ width only. Use 0.251″ bore with Series 1048, 7434 and 1851. Use 0.3125″ bore with Series 1669, 7283 and 7298. To order, specify bore, width and surface texture required.

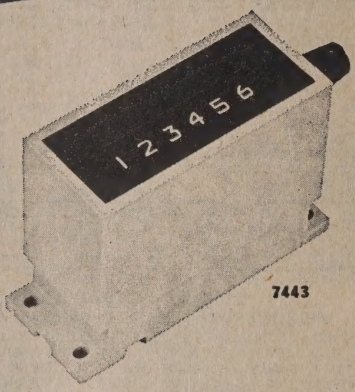
Measuring Wheel, Smooth—Net Each, Lots of 1–4* . . **$ 6.29**
Measuring Wheel, Knurled—Net Each, Lots of 1–4* . . **6.66**
Measuring Wheel, Rubber—Net Each, Lots of 1–4* . . . **10.53**
Measuring Wheel, Grooved—Net Each, Lots of 1–4* . . **10.53**

†TO ORDER: Specify Model No. with corresponding description to include type of drive, reset, number of digits, etc.
***Quantity Prices Available on Request.**

VEEDER-ROOT ELECTRICAL COUNTERS



7437, 7438



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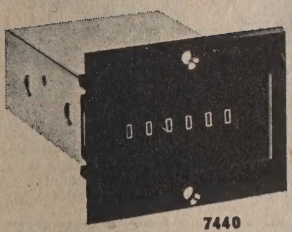

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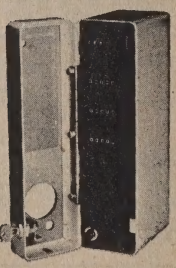

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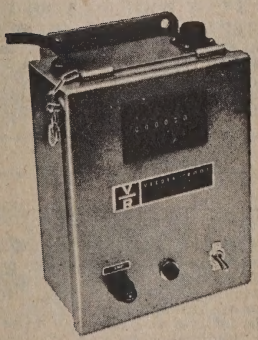
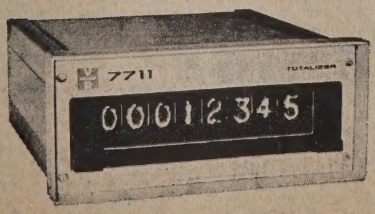


1697



7711, 7713

SERIES 7437, 7438 LOW-COST ELECTRIC COUNTERS

Cost-saving counter suitable for a wide range of applications with choice of nonreset and wide-bar reset models. Basic models UL Recognized. Standard AC (nonrectified) and DC voltages. Acetal resin utilized for dimensional and functional stability. Count-coil wound directly on one-piece frame. Pre-tested figures give optimum readability. Speeds to 600 cpm. Minimum pulse timing is 50 ms on-time and off-time. Tamper resistant case. Case size, 1⅞″ w. x 2⅜″ d. x 1 15/16″ h.

NONRESET MODELS

Model No.	Description†	Net Ea., Lots of 1-4*
7437	24–115 VAC, Base Mount, 5 Digits, UL	$ 8.50
	12–24 VDC, Base Mount, 5 Digits, UL	7.95
	115–230 VAC, Base Mount, 5 Digits, CSA, UL	8.80
	115 VAC, Back-of-Panel Mount, 5 Digits, UL	9.08
	24 VDC, 115 VAC, Panel Mount, 5 Digits	10.60
	24 VDC, 115 VAC, Base Mount, 6 Digits	9.40
	24 VDC, 115 VAC, Base Mount, 7 Digits	10.90

RESET MODELS

7438	12–24 VDC, 115 VAC, Base Mount	$14.35
	24 VDC, 115 VAC, Rear or Panel Mount	16.45

SERIES 7443 GENERAL-PURPOSE 6-DIGIT ELECTRIC COUNTERS

General-purpose counter ideal for most industrial applications. Offers high operating efficiency and accuracy at low cost. Precision wound AC coil not affected by voltage surge. Unit is free of rectifier problems and burn-outs. Balanced drive protects accuracy from shock and vibration. Speeds to 600 cpm. Minimum pulse time, 50 ms on-time and off-time. Counter is interchangeable with most existing general purpose counters. Heavy duty diecast frame and case. Case size, 3¼″ w. x 2½″ d. x 1⅜″ h. UL Recognized.

7443	12–24 VDC, Base Mount, Knob Reset	$25.30
	24–115 VAC, Base Mount, Knob Reset	25.30
	24 VDC, 24–115 VAC, Panel, Knob Reset	26.90
	24–115 VAC, Panel, Lock-and-Key Reset	34.65

SERIES 7416 MULTIPLE-SHIFT ELECTRIC COUNTER

Five-digit, three-shift counter for precision production control. Records production by shift on separate totalizers. Speeds to 500 cpm. Minimum pulse timing is 50 ms on-time. Interlock inhibits machine operation after preset production is complete. Has locked door for security. Light signals when production is completed. Available with or without predetermining. Case size, 3″ w. x 5¾″ d. x 11″ h.

7416	24 VAC with Predetermining	$239.00
	115 VAC with Predetermining	239.00
	24 VAC without Predetermining	147.00
	115 VAC without Predetermining	147.00

SERIES 7440 COMPACT, HIGH-SPEED 6-DIGIT ELECTRIC COUNTER

High-speed totalizer has manual pushbutton reset or remote electric reset. Patented positive reset. Electronically adjusted for precise performance, long operation. Speeds up to 2400 cpm. Compatible with Series 7441 (listed on another page). Case size, 2″ w. x 3½″ d. x 1″ h. UL/CSA Recognized.

7440	12–24 VDC, Manual Reset, Panel Mount‡	$35.36
	24 VDC, Electric Reset, Panel Mount‡	41.03
	115 VAC, Manual Reset, Panel Mount‡	39.75
	115 VAC, Electric Reset, Panel Mount‡	45.42

‡For plug-in mount design, subtract $1.20 from price.

SERIES 1697 INTERMEDIATE-SPEED COUNTER

Solid state, 6-digit, electromechanical totalizer has heavy gauge steel case, hinged door. Used with Veeder-Root photohead models PA or PC (listed on another page). Speeds up to 2400 cpm. Minimum pulse, 12 ms. Operates on 105–125 VAC, 50/60 Hz. Power consumption, 15 watts. Case size, 6 3/16″ w. x 3⅞″ d. x 8¼″ h.

Model 1697 Electromechanical Totalizer—
Net Each, Lots of 1-4* **$150.00**

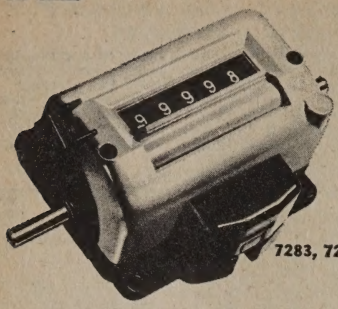
SERIES 7711, 7713 ELECTRONIC TOTALIZING COUNTERS

Compact, low-profile, high-speed totalizer has illuminated display. Decimal point and location are optional. Use as single self-contained totalizer or interface with Veeder-Root Series 7700 products to form a complete data acquisition system. Remote reset is optional. Optional latched and buffered BCD readout (DTL and TTL compatible). Speeds to 500 kHz. Operates on 105–125 VAC, 50/60 Hz. Power consumption, 20 watts. Case size, 8⅞″ w. x 12″ d. x 3⅞″ h.

7711	Unidirectional, 4 to 8 decades (Specify switch, photohead or pulse input.)	$555.00 and up
7713	Bidirectional, 4 to 7 decades (Specify switch or pulse input.)	585.00 and up

†**TO ORDER:** Specify Model No. with corresponding description which includes voltage, mounting, number of digits, reset, etc.

***Quantity Prices Available on Request.**



7283, 7298, 7615

SERIES 7283, 7298, 7615 HIGH-SPEED PREDETERMINING COUNTERS

Five-digit predetermining counter has anti-scramble and anti-topping features. Pre-set cover has positive interlock with switch, prevents inadvertent starts and over-runs. Speeds to 4000 cpm or rpm with sleeve bearings; 6000 with ball bearings. Lubrication never required. Case size, 4¾″ w. x 2¼″ d. x 2¼″ h.

Model No.	Description†	Net Ea., 1-4*
7283	Geared Drive, Base Mount, 1 or 2 Rotation, 1:1, 3:1, .1:1 gearing ratios, Sleeve Bearing	$102.15
	Same, but with Ball Bearing	115.85
	Same, with Ball Bearing, but with 1 to 4 Rotation, 1:1 gearing ratio, Panel Mount	119.00
7298	Geared Drive, Base Mt, totalizing only, 1 or 2 Rot., 1:1, .375:1 gearing ratios, Sleeve Bearing	76.45
	Same, but with 2 Rotation, 1:1 gearing ratio, Ball Bearing	90.70
7615	Ratchet Drive, 1 or 2 Rotation, Sleeve Bearing	102.15

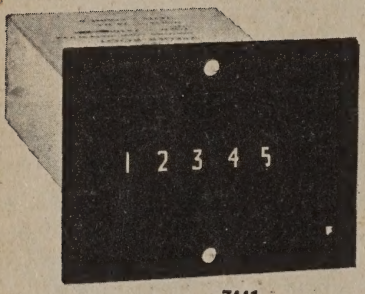
7277

SERIES 7277 HIGH-PERFORMANCE PREDETERMINING MECHANICAL COUNTERS

Precision 5-digit counter warranted for 1 year, or 1 billion counts, whichever comes first. Features include mechanical drive, electronic control switch, relay output. Has one to six predetermined levels. Automatically recycles for repeating operation. Unit has ball-bearing geared drive. Speeds to 5000 cpm with standard 1:1 gearing ratio. No lubrication required. Panel-mount design. Front panel for 5 and 6 level preset 7½″ w. x 12″ h. Case, 4¼″ d.

Model No.	Description†	Net Ea., 1-4*
7277‡	1 Preset Level, 1 to 4 Rotation, 1:1 gearing ratio	$372.25
	2 Level Preset, 1 to 4 Rotation, 1:1 gearing ratio	433.20
	3 Level Preset, 1 to 4 Rotation, 1:1 gearing ratio	516.40
	4 Level Preset, 1 to 4 Rotation, 1:1 gearing ratio	581.45

‡Five level preset and 0.1:1 gearing available.



7441

SERIES 7441 COMPACT PREDETERMINING ELECTRIC COUNTER

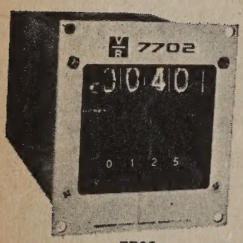
Low-cost, predetermining, 5-digit electric counter in small, compact size. Half the size of competitive units. Has patented reset system to assure reliability, long life. Preset and reset interlock feature assures security. Individual preset buttons. Speeds to 1500 cpm on DC, 1200 cpm on AC. Compatible with Series 7440 totalizer (listed on another page). Panel-mount design (plug-in models also available). Case size, 2″ w. x 4″ d. x 1″ h.

Model No.	Description†	Net Ea., 1-4*
7441	12–24 VDC, Manual Reset, Panel Mount	$66.18
	24 VDC, Electric Reset, Panel Mount	75.60
	115 VAC, Manual Reset, Panel Mount	72.06
	115 VAC, Electric Reset, Panel Mount	81.48

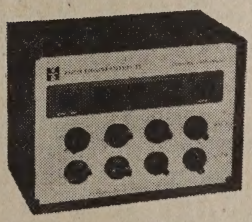
SERIES 7702 UNIDIRECTIONAL PREDETERMINING COUNTER

Compact counter has precise predetermining thumbwheel preset. Utilizes latest integrated circuits. Four decade display is standard. Has single row of presets. Solid state output device operates to control a variety of functions. Speeds up to 10 kHz (10,000 cps). Case size, 3½″ w. x 6″ d. x 3½″ h.

Model No.	Description†	Net Ea., 1-4*
7702	Number of decades, 2 to 4; switch, pulse or photohead input	$325.00 and up



7702

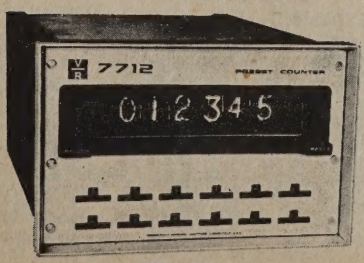


7129

SERIES 7129 DIGI-MASTER II PREDETERMINING COUNTER

High-speed, economical counter has silicon, solid state integrated circuitry for total reliability. Features illuminated digital display. Counts continuously even if lamps fail. Operates and recycles at speeds to 2000 cps. Accepts signals from a variety of input devices. With 4 decades; choice of 1 or 2 preset levels. Case size, 11 15/16″ w. x 5 7/16″ d. x 7½″ h. *Tradename.

Model No.	Description†	Net Ea., 1-4*
7129	4 illuminated decades; Specify 1 or 2 preset levels	$345.00 and up



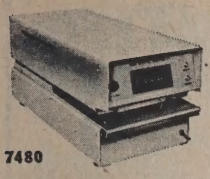
7712, 7714

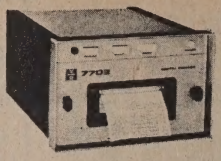
SERIES 7712, 7714 PREDETERMINING ELECTRONIC COUNTER

Unidirectional or bidirectional counter with one or two control levels. Additional levels joined in a single control package. Has thumbwheel predetermining switches with positive detents. Series 7714 includes a ± display. Unit controls from either positive or negative. Both models include a variety of input and output options. Easily factory modified. Used as a self-contained digital control or interfaces with Veeder-Root Series 7700 (listed on another page) products to form a complete digital control and data acquisition system. Speeds to 100 kHz Case size, 8⅞″ w. x 12″ d. x 5 9/16″ h.

Model No.	Description†	Net Ea., 1-4*
7712	Unidirectional, 4 to 6 Decades, 1 or 2 Preset Levels. (Specify switch, photoheads or pulse input.)	$775.00 and up
7714	Bidirectional, 4 to 6 Decades, 1 or 2 Preset Levels. (Specify switch or pulse input.)	$805.00 and up

†**TO ORDER:** Specify Model No. with corresponding description which includes type of drive, preset level, voltage, reset, number and type of decades, etc. ***Quantity Prices Available on Request.**


7480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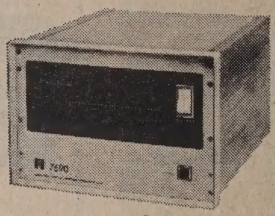
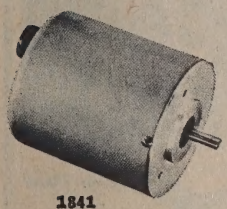
1048


7690

1851

1871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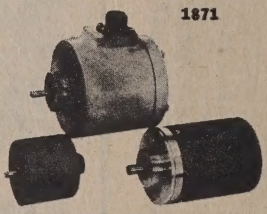
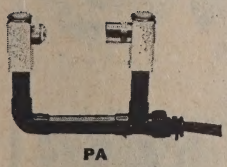
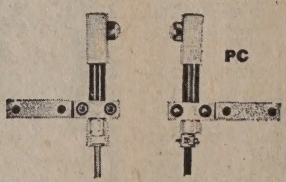
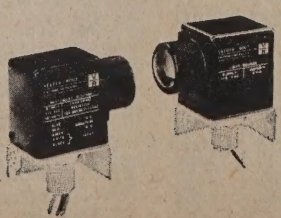

1848, 7109

Series 611 and 614 Miniature Photoheads


PA


PC

VA-602373


VA-610808, VA-610809

MODELS 7480, 7703, 7690 DIGITAL PRINTERS

Versatile, industrial printers and totalizing printers record on paper tape, aperture cards, forms, pressure sensitive tape, or carbon packs. Use as a system component. Direct interfacing with Veeder-Root Series 7700 counters (listed on another page). For printed records in inventory production control and cut-to-length applications.

Model No.	Description†	Net Ea., 1-4*
7480	10 Columns, with Interface Electronics	$ 995.00
7703	13 Columns, Desk-Top model	1595.00
7690	7 Columns, Ticket Printer	470.00

SERIES 1048, 1851 ELECTRIC CONTACTORS

Rugged electric contactor has rotary switch, steel shafts, Bakelite* case. Changes rotary or reciprocating motion into signal pulses. Speeds to 1000 rpm. Use with measuring wheels or direct coupling. Constructed for long life, low maintenance. Case is 3.562″ h.

*Reg. Bakelite Corp. TM.

Model No.	Description†	Net Ea., 1-4*
1048	Reciprocal or Rotary Drive	$62.95
1851	Geared Worm Drive, 1:1 or 3:1 gearing ratio	87.45

SERIES 1871 EXPLOSION-PROOF PULSE TRANSMITTER

Explosion-proof pulse transmitter features enclosed dry reed switch. Square wave, minimum bounce. Speeds to 600 cpm. UL/CSA Recognized for Class 1, groups C and D. Case is 4″ dia.

Model 1871 Pulse Transmitter—(Specify 1, 2, 4, 8, or 10 pulses per revolution.) Net Each, Lots of 1-4*.....**$44.10**

SERIES 1841, 1848, 7109 PULSE GENERATORS

Input signaling for electronic counters, controls and telemetering systems. Self-contained, long-life light source and photocell. Available in unidirectional and bidirectional models. Speeds to 3600 rpm. Optional 10-ft. cable with connectors.

Model No.	Description†	Dia., Inches	Net Ea., 1-4*
1841	Unidirectional, Standard Resolutions 1, 10, or 100	3¼	$146.00
	Optional 10-ft. Cable with Connectors		41.75
1848	Bidirectional, Resolutions from 1 to 600	2 7/16	235.00
	Optional 10-ft. Cable with Connectors		47.00
7109	Unidirectional, Resolutions from 1 to 600	2 7/16	230.00
	Optional 10-ft. Cable with Connectors		41.75

MODELS 611582, 611583, 614253, 614254 MINIATURE PHOTOHEADS

Subminiature photosensors sense objects as small as 0.037″. Designed for Series 7700 counter family (listed on another page). Long-life lamp. Easy installation. Simple to adjust or replace.

Model No.	Description†	Net Ea., 1-4*
611582	Reflective, Flange Mount; min. object, 0.1″	$ 50.00
611583	Reflective, Flange Mount; min. object, 0.080″	104.00
614253	Lamp and Cell, Flange Mount; min. object, 0.037″	113.00
614254	Lamp and Cell, Threaded Body, min. object, 0.037″	99.90
614251	Amplifier for use with Series 7702	55.00

MODELS PA, PC PHOTOHEADS

High-speed signaling for Series 7700, 1697, 7122 electronic counters and controls (listed on another page). Long-life lamps, solid state cadmium selenide cells. Select sizes from two basic models.

Model No.	Sizes‡	Net Ea., 1-4*
PA	"A" measurement 7/8″ to 6″; "B" measurement 2″ to 6″, with 10-ft. Cable	$67.00 and up
PC	"A" measurement 0″ to 50″, with 10-ft. Cable	74.00

‡Specify "A" and "B" sizes for Model PA; "A" size for Model PC. See illustrations.

MODEL VA-602373 LINEAR MEASURING PHOTOHEAD

Linear measuring photohead and 1-foot circumference measuring wheel provides complete signaling assembly for electronic counters. Choice of wheel surface—rubber, grooved, plain, or knurled. Specify required pulses per foot—1, 10, 12, 24, or 48. Wheel rests directly on material being measured. Supplied with 10-ft. cord.

Model VA-602373 Linear Measuring Photohead—(Specify 1, 10 12, 24, or 48 pulses per foot.)
Net Each, Lots of 1-4*.....**$181.50 and up**

MODELS VA-610808, 610809 PHOTOCELL RELAYS

Photoelectrically controlled relay package has light source and receiver with output relay. Maximum light-to-receiver is 12 feet. NEMA 12 housing. Standard ½″ conduit. No interwiring. Case height, 2½″.

Model VA-610808 Photocell Relay—600 cpm.
Net Each, Lots of 1-4*.....**$ 77.50**
Model VA-610809 Photocell Relay—1200 cpm.
Net Each, Lots of 1-4*.....**$161.50**

†**TO ORDER:** Specify Model No. with corresponding description which includes specific requirements.

***Quantity Prices Available on Request.**

Delay Timers

AUTOMATIC RESET DELAY TIMERS

For use where a fixed or adjustable delay is required between the closing of one circuit and the closing or opening of another. Prices shown are for 120 VAC, 60 Hz; 240 VAC, 60 Hz and 120/240 VAC, 50 Hz available; prices on request.

SERIES GP PLUG-IN AUTOMATIC RESET

Synchronous motor driven multi-purpose timer features unique spider clutch with the accuracy of infinite engaging types and the mechanical integrity of tooth types; repeat accuracy 0.25%, provided timer motor is wired to run continuously in reset position. Two sets of instantaneous SPDT and SPNO contacts switch over at beginning of time cycle and reset when clutch circuit is opened; two sets of SPDT and SPNC delay contacts operate at completion of time delay. Contacts rated 10 amps non-inductive at 125 and 250 VAC. Dial has 60 calibrations through 334° of rotation; knob adjust black pointer for time setting; red pointer moves to zero, showing elapsed time, and resets to black pointer position on power removal. Neon pilot indicates when motor is receiving power. Size, 3 2⁷⁄₃₂″ w. x 4³⁄₁₆″ h. x 4⁹⁄₃₂″ d. behind panel. UL Recognized.

I.T. No.	Max. Time Cycle	Min. Time Cycle	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
GP-6S	6 seconds	1/10 second	$53.00	$50.35	$47.70	$45.05	$42.40	$39.75
GP-15S	15 seconds	¼ second	53.00	50.35	47.70	45.05	42.40	39.75
GP-30S	30 seconds	½ second	53.00	50.35	47.70	45.05	42.40	39.75
GP-60S	60 seconds	1 second	53.00	50.35	47.70	45.05	42.40	39.75
GP-3M	3 minutes	3 seconds	53.00	50.35	47.70	45.05	42.40	39.75
GP-5M	5 minutes	5 seconds	53.00	50.35	47.70	45.05	42.40	39.75
GP-15M	15 minutes	15 seconds	53.00	50.35	47.70	45.05	42.40	39.75
GP-30M	30 minutes	30 seconds	53.00	50.35	47.70	45.05	42.40	39.75
GP-60M	60 minutes	60 seconds	53.00	50.35	47.70	45.05	42.40	39.75
GP-3H	3 hours	180 seconds	53.00	50.35	47.70	45.05	42.40	39.75

SERIES GTD INSTANTANEOUS RESET

Heavy-duty synchronous motor with clutch for instant starting and immediate reset. Isolated snap contacts rated 10 amps non-inductive. Mounts in 3″ hole, with single screw that tightens bracket to edge of panel hole. Flange, 4″ x 4³⁄₈″; 4 2³⁄₃₂″ d. Available with reverse clutch, and longer time cycle. Shipping Weight, 5 lbs.

I.T. No.	Max. Time Cycle	Dial Calibration	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
GTD-3S	3 seconds	1/20 second	$48.00	$45.60	$43.20	$40.80	$38.40	$36.00
GTD-6S	6 seconds	1/10 second	48.00	45.60	43.20	40.80	38.40	36.00
GTD-15S	15 seconds	¼ second	48.00	45.60	43.20	40.80	38.40	36.00
GTD-30S	30 seconds	½ second	48.00	45.60	43.20	40.80	38.40	36.00
GTD-60S	60 seconds	1 second	48.00	45.60	43.20	40.80	38.40	36.00
GTD-3M	3 minutes	3 seconds	48.00	45.60	43.20	40.80	38.40	36.00
GTD-5M	5 minutes	5 seconds	48.00	45.60	43.20	40.80	38.40	36.00
GTD-15M	15 minutes	15 seconds	48.00	45.60	43.20	40.80	38.40	36.00
GTD-30M	30 minutes	30 seconds	48.00	45.60	43.20	40.80	38.40	36.00
GTD-60M	60 minutes	1 minute	48.00	45.60	43.20	40.80	38.40	36.00
GTD-3H	3 hours	3 minutes	48.00	45.60	43.20	40.80	38.40	36.00

SERIES MTD

Designed to match modern panel instruments, with rugged plastic protective face. Snap contacts rated 10 amps. Mounts from front in 3″ hole, secured by bracket screwed to rear of timer. Snap-on rear terminals. Dials have 60 calibrations. Shpg. Wt., 3 lbs.

MTD-6S	6 seconds	1/10 second	$42.00	$39.90	$37.80	$35.70	$33.60	$31.50
MTD-15S	15 seconds	¼ second	42.00	39.90	37.80	35.70	33.60	31.50
MTD-30S	30 seconds	½ second	42.00	39.90	37.80	35.70	33.60	31.50
MTD-60S	60 seconds	1 second*	42.00	39.90	37.80	35.70	33.60	31.50
MTD-3M	3 minutes	3 seconds*	42.00	39.90	37.80	35.70	33.60	31.50
MTD-5M	5 minutes	5 seconds*	42.00	39.90	37.80	35.70	33.60	31.50
MTD-15M	15 minutes	15 seconds*	42.00	39.90	37.80	35.70	33.60	31.50
MTD-30M	30 minutes	30 seconds*	42.00	39.90	37.80	35.70	33.60	31.50
MTD-60M	60 minutes	1 minute*	42.00	39.90	37.80	35.70	33.60	31.50
MTD-3H	3 hours	3 minutes*	42.00	39.90	37.80	35.70	33.60	31.50

*Clutch external to synchronous motor; others have integral clutch.

SERIES SF AND CSF

Compact timers for back-of-panel mounting. Snap contacts rated 10 amps. Size, 2¼″ x 3¹⁄₁₆″ x 2⁵⁄₈″ d. CSF types have external clutch; 2 2³⁄₃₂″ d. Shpg. Wt., 1½ lbs.

SF-6S	6 seconds	1/10 second	$26.00	$24.70	$23.40	$22.10	$20.80	$19.50
SF-15S	15 seconds	¼ second	26.00	24.70	23.40	22.10	20.80	19.50
SF-30S	30 seconds	½ second	26.00	24.70	23.40	22.10	20.80	19.50
CSF-1M	60 seconds	1 second	28.00	26.60	25.20	23.80	22.40	21.00
CSF-3M	3 minutes	3 seconds	28.00	26.60	25.20	23.80	22.40	21.00
CSF-5M	5 minutes	5 seconds	28.00	26.60	25.20	23.80	22.40	21.00

SERIES TDAB WITH EXTERNAL CLUTCH

Behind panel mounting with terminal strip at front. SPDT snap-action contacts rated 10 amps. External clutch for fast reset, less than 0.2 sec. Size, 4⁹⁄₁₆″ x 3 17⁄₃₂″ x 3 1⁵⁄₃₂″ d. Also available in steel case. Shpg. Wt., 4 lbs.

I.T. No.	Max. Cycle	Dia. Calib., Secs	Net Each, Lots of*
TDAB-1S	1 sec	1/60	
TDAB-3S	3 secs	1/20	
TDAB-6S	6 secs	1/10	
TDAB-15S	15 secs	¼	1-3....$46.00
TDAB-30S	30 secs	½	4-5.... 43.70
TDAB-60S	60 secs	1	6-11... 41.40
TDAB-3M	3 min	3	12-24.. 39.10
TDAB-5M	5 min	5	25-49.. 36.80
TDAB-15M	15 min	15	50-99.. 34.50
TDAB-30M	30 min	30	
TDAB-60M	60 min	60	
TDAB-3H	3 hrs	180	

SERIES TDAF WITH EXTERNAL CLUTCH

Similar to Series TDAB above, but terminal strip at rear. Front panel mounting with 4 holes. Size, 4½″ x 3⁵⁄₈″ x 3⅜″ d. Fits 4⁵⁄₁₆″ x 2¾″ panel hole. **To Order:** Change prefix **TDAB** in above table to **TDAF**; same prices. Shpg. Wt., 4 lbs.

SERIES TD AND CTD

Case mounts thru 3³⁄₁₆″ dia. panel hole; 2 2½″ deep. Bracket clamps timer to panel. Isolated snap contacts rated 10 amps. Rear terminals. CTD series has external clutch; 4⁵⁄₃₂″ deep. Shpg. Wt., 1½ lbs.

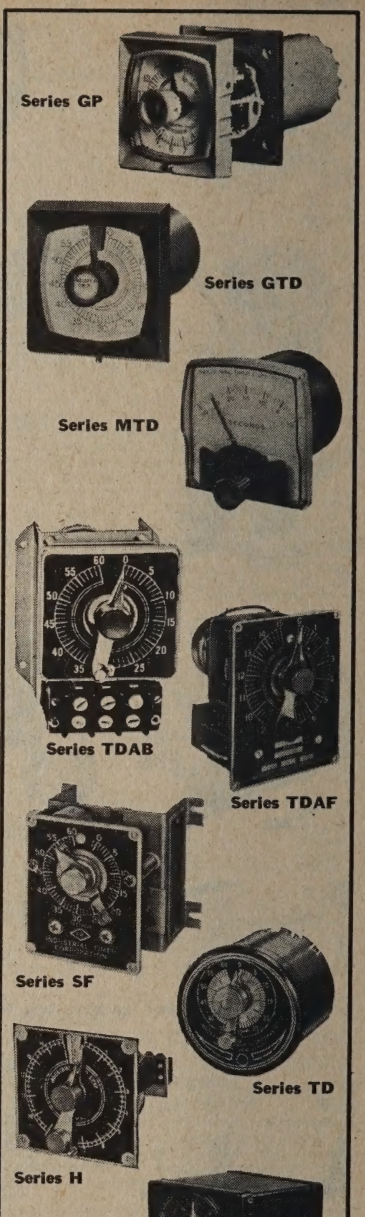
I.T. No.	Max. Cycle, Secs	Dial Calib., Secs	Net Each, Lots of†*
TD-6S	6	1/10	1-3....$30.50
TD-15S	15	¼	4-5.... 25.98
TD-30S	30	½	6-11... 27.45
CTD-1M	60	1	1-3....$35.00
CTD-3M	180	3	4-5.... 33.25
CTD-5M	300	5	6-11... 31.50

SERIES H AND CH

Panel mounting with four screws thru ⅛″ holes; terminal strip at rear for wiring. SPDT snap contacts rated 10 amps non-inductive. Size, 3⁹⁄₁₆″ x 3 7⁄₁₆″ x 3¹⁄₁₆″ d. CH has external clutch; 3¼″ d. Shpg. Wt., 1½ lbs.

H-6S	6	1/10	1-3....$27.50
H-15S	15	¼	4-5.... 26.13
H-30S	30	½	6-11... 24.75
CH-1M	60	1	1-3....$30.00
CH-3M	180	3	4-5.... 28.50
CH-5M	300	5	6-11... 27.00

†Quantities of 12-24 deduct 15% from unit price; 25-49 deduct 20%; 50-99 deduct 25%.



SERIES SC STOP CLOCKS

For time interval measurement up to 60 seconds or 60 minutes. Provision for starting by remote switch. Pointer reset by built-in pushbutton or remote control. Steel housing, baked enamel finish. **Model SC-100:** Max. registration, 60 seconds; minimum, 1/100 second. **Model SC-60:** Maximum registration, 60 minutes; min., 1 second. **Specify Model No.** Shpg. Wt., 6 lbs. For 120 VAC, 60 Hz; 240 VAC, 60 Hz available.

Net Each, Lots of*					
1-3	4-5	6-11	12-24	25-49	50-99
$72.00	$68.40	$64.80	$61.20	$57.60	$54.00

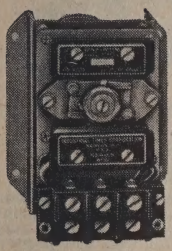
★LARGER QUANTITY PRICES

For quantities of 100–249, 30% discount off unit price; 250–499, 35% discount.

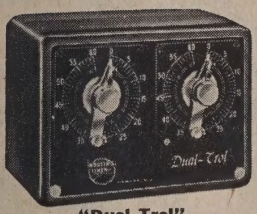
INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

Delay Timers, Meters

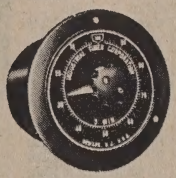
Series 90


Series 400

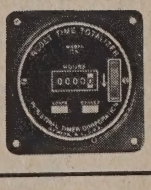
Series RB



"Dual-Trol"


Series PC

Type C-2


Type C-5

SERIES 90 DELAY TIMERS

Less calibrated dial. Cycle changes made by loosening cam screw and offsetting cam arm. SPDT contacts, 10 amps at 115 VAC, 60 Hz. Size, 2⅞" x 2¼" x 2¼". Shpg. Wt., 1 lb.

I.T. No.	Max. Time Cycle	Min. Time Cycle	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
90-6S	6 seconds	½ second	$18.50	$17.58	$16.65	$15.73	$14.80	$13.88
90-15S	15 seconds	1½ seconds	18.50	17.58	16.65	15.73	14.80	13.88
90-30S	30 seconds	3 seconds	18.50	17.58	16.65	15.73	14.80	13.88
90-60S	60 seconds	6 seconds	18.50	17.58	16.65	15.73	14.80	13.88
90-90S	90 seconds	9 seconds	18.50	17.58	16.65	15.73	14.80	13.88

SERIES 400 DELAY TIMERS

External clutch mechanism for high accuracy, instant reset and wide cycle range. SPDT snap contacts rated 10 amps. Adjustment made by loosening cam screw and rotating outer cam arm. For 115 VAC, 60 Hz. Size, 3 17/32" x 3⅝" x 4⅜". Shpg. Wt., 3 lbs.

I.T. No.	Max. Time Cycle	Min. Time Cycle	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
400-6S	6 seconds	0.6 second	$41.00	$38.95	$36.90	$34.85	$32.80	$30.75
400-15S	15 seconds	1.5 seconds	41.00	38.95	36.90	34.85	32.80	30.75
400-30S	30 seconds	3 seconds	41.00	38.95	36.90	34.85	32.80	30.75
400-60S	60 seconds	6 seconds	41.00	38.95	36.90	34.85	32.80	30.75
400-3M	3 minutes	18 seconds	41.00	38.95	36.90	34.85	32.80	30.75
400-5M	5 minutes	30 seconds	41.00	38.95	36.90	34.85	32.80	30.75
400-15M	15 minutes	1.5 minutes	41.00	38.95	36.90	34.85	32.80	30.75
400-30M	30 minutes	3 minutes	41.00	38.95	36.90	34.85	32.80	30.75
400-60M	60 minutes	6 minutes	41.00	38.95	36.90	34.85	32.80	30.75
400-3H	3 hours	18 minutes	41.00	38.95	36.90	34.85	32.80	30.75

SERIES RB AUTOMATIC RESET DELAY TIMERS

Power to motor starts delay; SPDT snap switch actuated when set period ends. Resets to period set on dial and opens load switch when power is removed from motor. Rated 15 amps non-ind. at 120 VAC or 240 VAC, 50/60 Hz. Can be flush, back or panel mounted. Size, 3 3/32" w. x 2 15/16" d. x 3 1/32" h. Wt., 1 lb. Specify model, time range, voltage and frequency when ordering; **50-Hz prices on request.**

RB-5.6S	5.5 seconds	0.2 second						
RB-14S	13.5 seconds	0.5 second	For 120 VAC, 60 Hz:					
RB-28S	27 seconds	1 second	$20.00	$19.00	$18.00	$17.00	$16.00	$15.00
RB-56S	54 seconds	2 seconds						
RB-84S	82 seconds	3 seconds	For 240 VAC, 60 Hz:					
RB-168S	164 seconds	6 seconds	$22.00	$20.90	$19.80	$18.70	$17.60	$16.50
RB-4.5M	264 seconds	10 seconds						

SERIES "DUAL-TROL" RECYCLING TIMERS

Two adjustable on-off sequencing switch closures. Any two modules may be combined for variety of time cycles. Large, easy-to-read concentric scales. Terminal strip inside housing; two ½" knockouts. SPST, rated 10 A non-induc., 115 VAC, 60 Hz. Size, 4½" x 5 5/16" x 7½".

I.T. No.	Max. Time Cycle	Min. Time Cycle	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
TM-6S	6 seconds	1/10 second	$29.00	$27.55	$26.10	$24.65	$23.20	$21.75
TM-15S	15 seconds	¼ second	29.00	27.55	26.10	24.65	23.20	21.75
TM-30S	30 seconds	½ second	29.00	27.55	26.10	24.65	23.20	21.75
TM-60S	60 seconds	1 second	29.00	27.55	26.10	24.65	23.20	21.75
TM-3M	3 minutes	3 seconds	29.00	27.55	26.10	24.65	23.20	21.75
TM-5M	5 minutes	5 seconds	29.00	27.55	26.10	24.65	23.20	21.75
TM-15M	15 minutes	15 seconds	29.00	27.55	26.10	24.65	23.20	21.75
TM-30M	30 minutes	30 seconds	29.00	27.55	26.10	24.65	23.20	21.75
TM-60M	60 minutes	1 minute	29.00	27.55	26.10	24.65	23.20	21.75
TM-3H	3 hours	3 minutes	29.00	27.55	26.10	24.65	23.20	21.75
DTH	Control housing only		47.00	44.65	42.30	39.95	37.60	35.25

SERIES PC PERCENTAGE TIMERS

Calibrated in percentage time delay. Knob sets "on" time from 3% to 97%; 100% for continuous circuit. Cam operated snap switch, 15 amps. 3⅞" dia. x 4 5/16" d. Wt., 2 lbs.

I.T. No.	Cycle, Seconds	Net Each, Lots of*					
		1-3	4-5	6-11	12-24	25-49	50-99
PC-15S	15	$33.00	$31.35	$29.70	$28.05	$26.40	$24.75
PC-30S	30	33.00	31.35	29.70	28.05	26.40	24.75
PC-60S	60	33.00	31.35	29.70	28.05	26.40	24.75

ELAPSED TIME METERS

For exact record of machine hours on AC appliances and industrial machines. Synchronous heavy duty self-lubricating motors connected by gears to five-digit counters. Choice of six styles with non-reset or reset mechanism, enclosed or in open mounting. For 115 VAC, 60 Hz. **Series C-2** is enclosed non-reset type in 3½" Bakelite meter case; mounts in 2⅞" dia. hole. **Series C-4** is open type, non-reset with 2½" round flange, for 2" dia. hole. **Series C-25** is same as C-2, but in square case; mounts in 2⅞" dia. hole, flange 3¼" sq. **Series C-5** has thumb reset wheel; mounts in 2⅞" dia. hole; flange 3¼" sq. **Series C-7** is same as C-5, but open style.

★LARGER QUANTITY PRICES: LOTS 100-249, DEDUCT 30% OFF UNIT PRICE; 250-499, DEDUCT 35%.

RANGE SUFFIXES

Suffix	Range	Calibration	Suffix	Range	Calibration
None	10,000 hours	1/10 hour	F	100,000 minutes	1 minute
A	100,000 hours	1 hour	G*	10,000 seconds	1/10 second
D	10,000 minutes	1/10 minute	H*	100,000 seconds	1 second

PRICES

To order, add Suffix from table above to indicate range and calibration.

I.T. Prefix	Description	Net Each, Lots of*					
		1-3	4-5	6-11	12-24	25-49	50-99
C-2	Non-reset panel-mount	$24.00	$22.80	$21.60	$20.40	$19.20	$18.00
C-4	Non-reset open-type	20.00	19.00	18.00	17.00	16.00	15.00
C-25	Non-reset square case	24.00	22.80	21.60	20.40	19.20	18.00
C-5	Reset type square case	46.00	43.70	41.40	39.10	36.80	34.50
C-5†	Reset type square case	47.00	44.65	42.30	39.95	37.60	35.25
C-5‡	Reset type square case	53.00	50.35	47.70	45.05	42.40	39.75
C-7	Reset open-type	38.00	36.10	34.20	32.30	30.40	28.50
C-7†	Reset open-type	39.00	37.05	35.10	33.15	31.20	29.25
C-7‡	Reset open-type	45.00	42.75	40.50	38.25	36.00	33.75

*Not available in reset types. †Suffix A or D. ‡Suffix F.

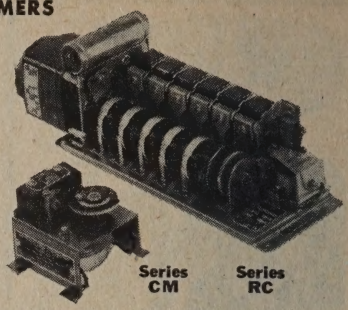
INDUSTRIAL TIMER

A UNIT OF ESTERLINE CORPORATION

Motor Driven Timers

SYNCHRONOUS, MOTOR-DRIVEN CAM TIMERS

Motor: Heavy-duty synchronous type, UL and CSA Approved. Available in 13 standard speeds. For short time cycles, higher torque motor is used. Built and guaranteed for long, trouble-free performance. **Switch:** SPDT snap-action, totally enclosed UL and CSA Approved. Mounted on individual brackets for removal of each switch without disassembly of switch bank. Rated 10 amps AC, non-inductive. **Electrical:** Supplied for 115 or 220 VAC operation on 25, 50, 60 or 400 Hz; also 6, 12, 24 or 30 VDC. **Gear Rack Assembly:** Stock selection of 50 standard ratio gear and rack assemblies. Easily changeable by removing 5-40 screw, setting rack into recess, and retightening the screw. **Individual Cam Adjustment:** On-Off periods adjustable 2% to 98% of total time cycle on all but RA Series. Nut on face plate is loosened, cam is rotated to percentage desired, and nut tightened. Cams are made of corrosion-resistant aluminum. **Timing Sequence:** On MC and RC Series, each cam is individually mounted on the shaft with heavy-duty friction disc for easy finger adjustment of timing sequence. Permits rapid cam positioning without use of set screws or wrenches. Drum, calibrated 0% to 100%, is mounted on each cam; mounted pointer acts as guide to set related programmed sequences. **Ordering Information:** When ordering, specify: 1—voltage and frequency of motor current; 2—number of switches desired; 3—time cycle selected from chart below (e.g., MC-4 timer with C-12 gear rack).



Series CM Series RC

SERIES CM RECYCLING TIMER

Repeats a continuous, adjustable On-Off electrical cycle. Consists of heavy-duty synchronous motor, adjustable cam and SPDT switch on base-mount chassis. Cam coupled to motor by simple gear and rack assembly, easily changeable. Cam adjustable 2% to 98% of total time cycle; calibrated in percentage for quick accuracy. Choice of 50 stock gear and rack assemblies, 40 cycles (⅔ sec) to 1 revolution in 72 hours.

SERIES MC MULTI-CAM RECYCLING TIMER

Identical in operation to Series CM, but controls from 2 to 20 circuits. Cams are mounted on single driving shaft, coupled to motor by gear and rack assembly. Cams independently adjustable 2% to 98% of total time cycle. Individual cam adjustment permits use as a programming device; adjustable in any combination of timed sequences. Total revolution time determined by motor speed and interchangeable gear and rack assemblies. Model MC-0 an 8.5-watt motor is standard.

SERIES RA SINGLE-CYCLE TIMER

Provides single, timed electrical cycle on momentary actuation from a remote position. Circular plate cam is notched at one point on the circumference, with a small plate (or pawl) at this location. The plate is contoured to the periphery of the cam and pressed against the cam face by a spring and stud. On actuation, the relay mechanically disengages a lever from the cam notch and starts the motor. During cam revolution, the relay lever rides on the circumference of the cam. At the end of the revolution, the pawl guides the lever into the notch, stopping the motor after completing one revolution. The single switch handles the timer motor and the external load circuits, limited only by switch rating.

SERIES RC SINGLE-CYCLE, MULTI-CAM TIMER

Identical to Series RA, but operates from 1 to 20 additional circuits. Permits the user to have all the advantages of Series MC, plus the single-cycle homing control of Series RA. Model RC-0 an 8.5-watt motor is standard.

Gear Rack Model No.	Time Cycle* for Series Model												
	CM-0 MC-0† RA-0 RC-0†	CM-1 MC-1 RA-1 RC-1	CM-2 MC-2 RA-2 RC-2	CM-3 MC-3 RA-3 RC-3	CM-4 MC-4 RA-4 RC-4	CM-5 MC-5 RA-5 RC-5	CM-6 MC-6 RA-6 RC-6	CM-7 MC-7 RA-7 RC-7	CM-8 MC-8 RA-8 RC-8	CM-9 MC-9 RA-9 RC-9	CM-10 MC-10 RA-10 RC-10	CM-11 MC-11 RA-11 RC-11	CM-12 MC-12 RA-12 RC-12
E-12	40c	4s	10s	20s	40s	2m	3m20s	10m	20m	40m	2h	3h20m	8h
E-14	46.7c	4.67s	11.67s	23.33s	46.67s	2m20s	3m53s	11m40s	23m20s	46m40s	2h20m	3h53m	9h20m
D-12	48c	4.8s	12s	24s	48s	2m24s	4m	12m	24m	48m	2h24m	4h	9h36m
E-15	50c	5s	12.5s	25s	50s	2m30s	4m10s	12m30s	25m	50m	2h30m	4h10m	10h
E-16	53.3c	5.33s	13.33s	26.67s	53.3s	2m40s	4m27s	13m20s	26m40s	53m20s	2h40m	4h27m	10h40m
D-14	56c	5.6s	14s	28s	56s	2m48s	4m40s	14m	28m	56m	2h48m	4h40m	11h12m
C-12	1s	6s	15s	30s	60s	3m	5m	15m	30m	60m	3h	5h	12h
D-16	64c	6.4s	16s	32s	64s	3m12s	5m20s	16m	32m	64m	3h12m	5h20m	12h48m
E-20	66.7c	6.67s	16.67s	33.33s	66.67s	3m20s	5m33s	16m40s	33m20s	66m40s	3h20m	5h33m	13h20m
C-14	70c	7s	17.5s	35s	70s	3m30s	5m50s	17m30s	35m	70m	3h30m	5h50m	14h
D-18	72c	7.2s	18s	36s	72s	3m36s	6m	18m	36m	72m	3h36m	6h	14h24m
E-22	73.3c	7.33s	18.33s	36.67s	73.33s	3m40s	6m7s	18m20s	36m40s	73m20s	3h40m	6h7m	14h40m
C-15	75c	7.5s	18.75s	37.5s	75s	3m45s	6m15s	18m45s	37m30s	75m	3h45m	6h15m	15h
B-12	80c	8s	20s	40s	80s	4m	6m40s	20m	40m	80m	4h	6h40m	16h
E-26	86.7c	8.67s	21.67s	43.33s	86.67s	4m20s	7m13s	21m40s	43m20s	86m40s	4h20m	7h13m	17h20m
D-22	88c	8.8s	22s	44s	88s	4m24s	7m20s	22m	44m	88m	4h24m	7h20m	17h36m
C-18	90c	9s	22.5s	45s	90s	4m30s	7m30s	22m30s	45m	90m	4h30m	7h30m	18h
B-14	93.3c	9.33s	23.33s	46.67s	93.33s	4m40s	7m47s	23m20s	46m40s	93m20s	4h40m	7h47m	18h40m
D-24	96c	9.6s	24s	48s	96s	4m48s	8m	24m	48m	96m	4h48m	8h	19h12m
B-15	100c	10s	25s	50s	100s	5m	8m20s	25m	50m	100m	5h	8h20m	20h
D-26	104c	10.4s	26s	52s	104s	5m12s	8m40s	26m	52m	104m	5h12m	8h40m	20h48m
B-16	106.7c	10.67s	26.67s	53.33s	106.7s	5m20s	8m54s	26m40s	53m20s	106m40s	5h20m	8h54m	21h20m
C-22	110c	11s	27.5s	55s	110s	5m30s	9m10s	27m30s	55m	110m	5h30m	9h10m	22h
D-28	112c	11.2s	28s	56s	112s	5m36s	9m20s	28m	56m	112m	5h36m	9h20m	22h24m
E-34	113.3c	11.33s	28.33s	56.67s	113.3s	5m40s	9m27s	28m20s	56m40s	113m20s	5h40m	9h27m	22h40m
A-12	2s	12s	30s	60s	2m	6m	10m	30m	60m	2h	6h	10h	24h
D-32	2s8c	12.78s	32s	64s	128s	6m24s	10m40s	32m	64m	2h8m	6h24m	10h40m	25h36m
C-26	2s10c	13s	32.5s	65s	130s	6m30s	10m50s	32m30s	65m	2h10m	6h30m	10h50m	26h
B-20	2s12c	13.2s	33.33s	66.67s	133.3s	6m40s	11m7s	33m20s	66m40s	2h13m	6h40m	11h7m	26h40m
D-34	2s16c	13.56s	34s	68s	136s	6m48s	11m20s	34m	68m	2h16m	6h48m	11h20m	27h12m
A-14	2s20c	14s	35s	70s	140s	7m	11m40s	35m	70m	2h20m	7h	11h40m	28h
D-36	2s24c	14.4s	36s	72s	144s	7m12s	12m	36m	72m	2h24m	7h12m	12h	28h48m
B-22	2s27c	14.7s	36.67s	73.33s	146.7s	7m20s	12m13s	36m40s	73m20s	2h27m	7h20m	12h13m	29h20m
A-15	2s30c	15s	37.5s	75s	150s	7m30s	12m30s	37m30s	75m	2h30m	7h30m	12h30m	30h
A-16	2s40c	16s	40s	80s	160s	8m	13m20s	40m	80m	2h40m	8h	13h20m	32h
C-34	2s50c	17s	42.5s	85s	170s	8m30s	14m10s	42m30s	85m	2h50m	8h30m	14h10m	34h
B-26	2s52c	17.2s	43.33s	86.67s	173.3s	8m40s	14m27s	43m20s	86m40s	2h53m	8h40m	14h27m	34h40m
A-18	3s	18s	45s	90s	3m	9m	15m	45m	90m	3h	9h	15h	36h
B-28	3s7c	18.7s	46.67s	93.33s	186.7s	9m20s	15m33s	46m40s	93m20s	3h7m	9h20m	15h33m	37h20m
A-20	3s20c	20s	50s	100s	200s	10m	16m40s	50m	100m	3h20m	10h	16h40m	40h
B-32	3s33c	21.3s	53.33s	106.7s	213.4	10m40s	17m47s	53m20s	106m40s	3h33m	10h40m	17h47m	42h40m
A-22	3s40c	22s	55s	110s	220s	11m	18m20s	55m	110m	3h40m	11h	18h20m	44h
B-34	3s47c	22.7s	56.67s	113.3s	226.7s	11m20s	18m53s	56m40s	113m20s	3h47m	11h20m	18h53m	45h20m
A-24	4s	24s	60s	2m	4m	12m	20m	60m	2h	4h	12h	20h	48h
A-26	4s20c	26s	65s	130s	260s	13m	21m40s	65m	2h10m	4h20m	13h	21h40m	52h
A-28	4s40c	28s	70s	140s	280s	14m	23m20s	70m	2h20m	4h40m	14h	23h20m	56h
A-30	5s	30s	75s	150s	5m	15m	25m	75m	2h30m	5h	15h	25h	60h
A-32	5s20c	32s	80s	160s	320s	16m	26m40s	80m	2h40m	5h20m	16h	26h40m	64h
A-34	5s40c	34s	85s	170s	340s	17m	28m20s	85m	2h50m	5h40m	17h	28h20m	68h
A-36	6s	36s	90s	3m	6m	18m	30m	90m	3h	6h	18h	30h	72h

*C = cycles; s = seconds; m = minutes; h = hours. Each unit designation is limited in overall time to the 50 time cycles listed in its column; example: RC-4 can range from 40 seconds to 6 minutes in 50 steps by selecting one of 50 gear racks. †Require 8.5-watt motor.

INDUSTRIAL NET PRICES

Industrial Timer Series CM—Net Each.....**$22.50***
Industrial Timer Series RA—Net Each.....**32.00***
Industrial Timer Series MC—Net Each, 2 to 20 switches. From **$37.00** to **$201.00***. **Complete pricing on request.**
Industrial Timer Series RC—Net Each, 2 to 20 switches. From **$45.00** to **$215.00***. **Complete pricing on request.**
All Gear Racks—Net Each.....**$2.00**

Multi-cam kits available for experimental work; write for full information.

★INDUSTRIAL DISCOUNTS

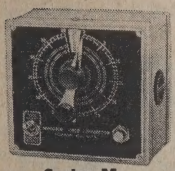
For Lots of	Discount Off Net	Multiplier	For Lots of	Discount Off Net	Multiplier
1–3	None	1.00	25–49	20%	.80
4–5	5%	.95	50–99	25%	.75
6–11	10%	.90	100–249	30%	.70
12–24	15%	.85	250–499	35%	.65

INDUSTRIAL TIMER
A UNIT OF ESTERLINE CORPORATION

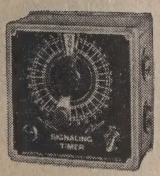
Interval Timers

Series PAB

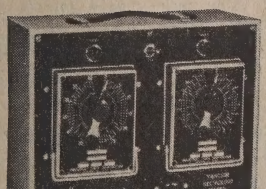
Series P


Series M

Series RS


Series S

Series PAF


Recycling Timer

AUTOMATIC RESET INTERVAL TIMERS

Dependable timers in enclosed case with positive time cycle adjustments. Energized by momentary contact to close a load circuit for pre-set interval, with automatic reset at end of time cycle. Heavy-duty synchronous motors operate on 115 VAC, 60 Hz. Contacts rated 15 amps non-inductive except Series M, 10 amps.

SERIES PAB INSTANTANEOUS RESET TIMERS

Extremely accurate, for demanding process control applications. Heavy steel case, 7⅛" x 5⅛" x 4 1/16". Two ½" knockouts provide access to terminal strip. Wt., 6 lbs.

I.T. No.	Max. Time Cycle	Dial Calibration	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
PAB-1S	1 second	1/60 second	$60.00	$57.00	$54.00	$51.00	$48.00	$45.00
PAB-3S	3 seconds	1/20 second	60.00	57.00	54.00	51.00	48.00	45.00
PAB-6S	6 seconds	1/10 second	60.00	57.00	54.00	51.00	48.00	45.00
PAB-15S	15 seconds	¼ second	60.00	57.00	54.00	51.00	48.00	45.00
PAB-30S	30 seconds	½ second	60.00	57.00	54.00	51.00	48.00	45.00
PAB-60S	60 seconds	1 second	60.00	57.00	54.00	51.00	48.00	45.00
PAB-3M	3 minutes	3 seconds	60.00	57.00	54.00	51.00	48.00	45.00
PAB-5M	5 minutes	5 seconds	60.00	57.00	54.00	51.00	48.00	45.00
PAB-15M	15 minutes	15 seconds	60.00	57.00	54.00	51.00	48.00	45.00
PAB-30M	30 minutes	30 seconds	60.00	57.00	54.00	51.00	48.00	45.00
PAB-60M	60 minutes	60 seconds	60.00	57.00	54.00	51.00	48.00	45.00
PAB-3H	3 hours	3 minutes	60.00	57.00	54.00	51.00	48.00	45.00

SERIES P REMOTE STARTING TIMERS

Multi-purpose timers with line cord, built-in start button, and two receptacles for load and remote control circuits. Size, 5" x 5" x 3 3/16". Shipping Weight, 3 lbs.

P-6S	6 seconds	1/10 second	$44.00	$41.80	$39.60	$37.40	$35.20	$33.00
P-4R	15 seconds	¼ second	44.00	41.80	39.60	37.40	35.20	33.00
P-2R	30 seconds	½ second	44.00	41.80	39.60	37.40	35.20	33.00
P-1M	60 seconds	1 second	44.00	41.80	39.60	37.40	35.20	33.00
P-3M	3 minutes	3 seconds	44.00	41.80	39.60	37.40	35.20	33.00
P-5M	5 minutes	5 seconds	44.00	41.80	39.60	37.40	35.20	33.00

SERIES M ECONOMY INTERVAL TIMERS

Same as Series P above, without remote starting provision. Shipping Weight, 3 lbs.

M-1M	60 seconds	1 second	$33.00	$31.35	$29.70	$28.05	$26.40	$24.75

SERIES RS MANUAL RESET INTERVAL TIMERS

Completely enclosed, silent timers with simple knob for setting and elapsed time indication. Heavy silver contacts rated 20 amps at 115 VAC, 60 Hz. Color coded leads, 18" long. Has 3½" flange; mounts in 2¾" dia. hole; 2 31/32" d. Shpg. Wt., 2 lbs.

RS-15M	15 minutes	15 seconds	$27.00	$25.65	$24.30	$22.95	$21.60	$20.25
RS-60M	60 minutes	1 minute	27.00	25.65	24.30	22.95	21.60	20.25
RS-3H	3 hours	5 minutes	27.00	25.65	24.30	22.95	21.60	20.25
RS-6H	6 hours	10 minutes	27.00	25.65	24.30	22.95	21.60	20.25
RS-8H	8 hours	15 minutes	27.00	25.65	24.30	22.95	21.60	20.25
RS-12H	12 hours	15 minutes	27.00	25.65	24.30	22.95	21.60	20.25
RS-24H	24 hours	30 minutes	27.00	25.65	24.30	22.95	21.60	20.25

SERIES S MANUAL RESET SIGNALLING TIMERS

Manual reset process timer provides audible signal at end of time interval or time delay. Sockets on side for connection of lights, alarms, controlled circuits. Includes line cord. Snap contacts rated 10 amps. Size, 5" x 5" x 3¾". Shpg. Wt., 3 lbs.

S-1M	1 minute	1 second	$32.00	$30.40	$28.80	$27.20	$25.60	$24.00
S-5M	5 minutes	5 seconds	32.00	30.40	28.80	27.20	25.60	24.00
S-15M	15 minutes	15 seconds	32.00	30.40	28.80	27.20	25.60	24.00
S-30M	30 minutes	30 seconds	32.00	30.40	28.80	27.20	25.60	24.00
S-1H	1 hour	1 minute	32.00	30.40	28.80	27.20	25.60	24.00
S-3H	3 hours	3 minutes	32.00	30.40	28.80	27.20	25.60	24.00

SERIES SAR AUTOMATIC RESET SIGNALLING TIMERS

Same as Series S above, but with automatic reset to pre-set time cycle. Wt., 3 lbs.

SAR-1M	1 minute	1 second	$49.00	$46.55	$44.10	$41.65	$39.20	$36.75
SAR-5M	5 minutes	5 seconds	49.00	46.55	44.10	41.65	39.20	36.75
SAR-15M	15 minutes	15 seconds	49.00	46.55	44.10	41.65	39.20	36.75
SAR-30M	30 minutes	30 seconds	49.00	46.55	44.10	41.65	39.20	36.75
SAR-1H	1 hour	1 minute	49.00	46.55	44.10	41.65	39.20	36.75
SAR-3H	3 hours	3 minutes	49.00	46.55	44.10	41.65	39.20	36.75

PANEL-MOUNTING INTERVAL TIMERS

Same as timers above, but less case. To order, use Series Prefix as indicated below, followed by appropriate Suffix from tables above to indicate maximum time cycle.

Series Prefix	Panel-Mount Version of Series	Shpg. Wt., Lbs.	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
PAF-	PAB automatic reset timer	3½	$52.00	$49.40	$46.80	$44.20	$41.60	$39.00
PF-*	P remote starting timer	3	44.00	41.80	39.60	37.40	35.20	33.00
MF-	M economy timer	3	33.00	31.35	29.70	28.05	26.40	24.75
SAF-	S signalling timer	3	32.00	30.40	28.80	27.20	25.60	24.00
SARF-	SAR auto. reset signalling	3	49.00	46.55	44.10	41.65	39.20	36.75

*Add Suffix **15S** for 15 second time cycle, **30S** for 30 sec.; others, use Suffix from tables above; e.g., PAF-**3M** is panel mount version of PAB-3M 3-minute timer.

RECYCLING TIMER

Type A: For use with two timing elements. With elements adjusted, cycles follow in regular sequence, without need for additional adjustment. **Controls:** On/Off; Load Control; Male Load Plug and Pilot Lamps for each element. **Contact Rating:** 20 amps at 115 VAC, non-inductive. **Size:** 11" x 6⅛" x 9". Shpg. Wt., 11 lbs. With carrying strap. **Type B:** Same, but for built-in, tamper-proof applications. **Specify Type A or B.**

Net Each, Lots of*					
1-3	4-5	6-11	12-24	25-49	50-99
$85.00	$80.75	$76.50	$72.25	$68.00	$63.75

TANDEM RECYCLING TIMERS

TIMING ELEMENTS (TWO REQUIRED)

I.T. No.	Max. Time Cycle	Dial Calibration	Net Each, Lots of*					
			1-3	4-5	6-11	12-24	25-49	50-99
ET-3S	3 seconds	1/20 second	$48.00	$45.60	$43.20	$40.80	$38.40	$36.00
ET-6S	6 seconds	1/10 second	48.00	45.60	43.20	40.80	38.40	36.00
ET-15S	15 seconds	¼ second	48.00	45.60	43.20	40.80	38.40	36.00
ET-30S	30 seconds	½ second	48.00	45.60	43.20	40.80	38.40	36.00
ET-60S	60 seconds	1 second	48.00	45.60	43.20	40.80	38.40	36.00
ET-3M	3 minutes	3 seconds	48.00	45.60	43.20	40.80	38.40	36.00
ET-5M	5 minutes	5 seconds	48.00	45.60	43.20	40.80	38.40	36.00
ET-15M	15 minutes	15 seconds	48.00	45.60	43.20	40.80	38.40	36.00
ET-30M	30 minutes	30 seconds	48.00	45.60	43.20	40.80	38.40	36.00
ET-60M	60 minutes	60 seconds	48.00	45.60	43.20	40.80	38.40	36.00
ET-3H	3 hours	3 minutes	48.00	45.60	43.20	40.80	38.40	36.00

★LARGER QUANTITY PRICES: FOR QUANTITIES OF 100-249, 30% DISCOUNT OFF UNIT PRICE; 250-499, 35% DISCOUNT.

SERIES DA TIME-DELAY TIMERS

REAR MOUNTING

Type DA11: Manually adjustable by knob. Apply wherever delay, interval or repeat cycle timing functions are required (repeat cycle requires two units). Internal clutch engages and disengages when motor is energized and de-energized. Resets to start position when power is removed. SPDT switch rated 20 amps at 125 or 250 VAC resistive; solder lug terminals. Min. setting, 0 sec. Repeat accuracy, ±¾ of 1% of total time range. Timing motor rated 5 watts max. at 120 VAC, 60 Hz. UL Recognized. Size, 3⅜″ w. x 2 1⅜₁₆″ d. x 3⅛″ h. Weight, 1 lb.

Type DA21: Same as DA11 but with locknut adjustment to eliminate tampering. UL Recognized.

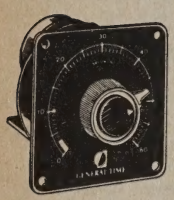
When ordering, specify model number, voltage, and frequency.

Model Number		Max.	Max.
Manual Adj.	Locknut Adj.	Time Setting	Reset Time
DA11-036	.....	5.7 sec	.25 sec
DA11-031	DA21-001	14 sec	1.0 sec
DA11-032	DA21-002	57 sec	1.5 sec
DA11-033	DA21-003	4.5 min	15 sec
DA11-034	DA21-004	9.5 min	120 sec

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$23.40	$22.25	$21.10	$19.90	$18.75	$17.55	$16.40

SERIES DP11 RESET TIMERS

PANEL MOUNTING

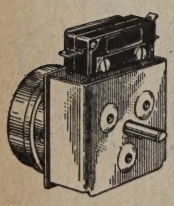


Adjustable time range by simple pointer knob. Apply wherever delay, interval or repeat cycle timing are needed (repeat cycle requires two timers). Readout of elapsed time by pointer in center of knob. Unit resets to start position when power is removed. SPDT switch rated 10 amps at 125 or 250 VAC resistive. Timing motor rated 5 watts max. at 120 VAC, 60 Hz. Repeat accuracy, ±1% of total time range. Screw terminals. Size, 3⅝₁₆″ sq. x 3½″ deep, behind panel. Requires 3⅛″ dia. mounting hole cut. **When ordering, specify model number, voltage, and frequency.**

Model Number	Time Setting		Max.	Dial Grads.	
	Max.	Min.	Reset Time	Major	Minor
DP11-007	6 sec	.3 sec	.5 sec	1 sec	1.0 sec
DP11-001	15 sec	.8 sec	1.0 sec	1 sec	.2 sec
DP11-006	30 sec	1.5 sec	1.5 sec	5 sec	.5 sec
DP11-002	60 sec	3.0 sec	1.5 sec	10 sec	1.0 sec
DP11-003	5 min	.2 min	15 sec	1 min	.1 min
DP11-004	10 min	.4 min	120 sec	1 min	.2 min

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$28.80	$27.35	$25.90	$24.50	$23.05	$21.60	$20.15

SERIES AB HAND-SET INTERVAL TIMERS



Rotation energizes the load and timing motor, which are de-energized on release; when motor drives timer to zero. Setting can be changed during cycle without damage. Mount behind panel, using three equally spaced .180″ dia. tapped holes on .562″ radius. Setting shaft, ¼″ dia. flatted to .156″ for ½″. Flat is located 180° from "0" time. SPDT switch rated 25 amps at 125 or 250 VAC resistive. Timing motor rated 3.5 watts at 120 VAC, 60 Hz. Spade terminals, ¼″. Size, 2½″ w. x 3⅜₁₆″ d. x 3″ h. UL Recognized. Weight, 1 lb. **When ordering, specify model number, voltage and frequency.**

Model No.	Time Range	Model No.	Time Range
AB51-001	1 min	AB51-006	2 hrs
AB51-002	6 min	AB51-007	6 hrs
AB51-003	15 min	AB51-008	8 hrs
AB51-004	30 min	AB51-010	12 hrs
AB51-005	60 min	AB51-016	24 hrs

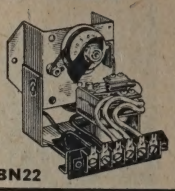
Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$10.65	$10.10	$9.60	$9.05	$8.55	$8.00	$7.45

ACCESSORIES

Model No. AT5-901—Dial. Net Each..... **$1.40**
Model No. 55-121—Knob. Net Each..... **.40**

SERIES BN ADJUSTABLE RESET TIMERS

Rear mounting delay timer has built-in relay and adjustable time range. Dial and setting knob with readout of elapsed time by pointer in center of knob. SPDT relay rated 10 amps at 125/250 VAC. Motor rating, 5 W max. at 120 VAC. Repeat accuracy, ¾ of 1% of total time range. Locknut setting adjustment, where only occasional time period changes are required. UL Recognized. Size, 3.375″ w. x 4.202″ h. x 3.750″ d.

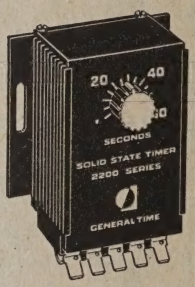


BN22

Model Number	Time Setting		Max.	Dial Grads.	
	Max.	Min.	Reset Time	Major	Minor
BN22-001	13.5 sec	.7 sec	.5 sec	1 sec	.5 sec
BN22-004	9.5 min	30 sec	120 sec	1 min	5 sec

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$31.95	$30.35	$28.75	$27.15	$25.55	$23.95	$22.35

SOLID STATE TIMERS



Rear Mount Type

Plug-in Type

Solid state timers meet the broadest range of applications. Plug-in or rear mount types; standard timers for delay, interval or D.O.D. (delay on de-energization). AC/DC input; relay (DPDT); low operating temperature and no first cycle effect. UL Recognized. Repeat accuracy of ±2%. Resistive load of 10 amps at 117 VAC or 28 VDC. Minimum reset time, 300 msec for lower third of time band on type 2111; 100 msec, all others. **When ordering,** add time range suffix to series: e.g., **2211-1PF-001** for 1/.10 sec max./min. time setting.

TIME RANGES

Suffix	Time Setting Max.	Time Setting Min.	Suffix	Time Setting Max.	Time Setting Min.
-001	1 sec	.10 sec	-060	60 sec	3.0 sec
-003	3 sec	.15 sec	-118	3 min	9.0 sec
-005	5 sec	.25 sec	-130	5 min	15.0 sec
-010	10 sec	.50 sec	-160	10 min	60 sec
-015	15 sec	.75 sec	-190	15 min	90 sec
-030	30 sec	1.50 sec			

PLUG-IN TIMERS

SERIES 2111-1PF—Relay output, 117 V AC/DC, 8-pin plug.

Time Range Suffix*	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249	250 Up
-001 to -118	$27.80	$27.05	$26.40	$24.95	$22.20	$20.80	$19.40
-130	29.00	28.15	27.40	25.95	23.15	21.75	20.30
-160	35.05	34.25	33.50	31.80	28.50	27.10	25.35
-190	36.90	36.10	35.15	33.40	30.25	28.50	26.75

SERIES 2112-1PF—Relay output, 117 V AC/DC, 11-pin plug.

-001 to -118	$32.60	$31.70	$30.95	$29.35	$26.05	$24.20	$22.85
-130	33.85	32.80	32.00	30.30	27.05	25.15	23.65
-160	40.35	39.10	38.05	36.15	32.60	30.40	28.75
-190	42.25	40.85	39.70	37.60	34.00	31.70	29.85

REAR MOUNT TIMERS

SERIES 2211-1PF—Relay output, 117 V AC/DC, 8 terminals.

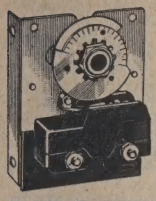
-001 to -118	$28.60	$27.85	$27.15	$25.80	$22.90	$21.40	$20.00
-130	29.85	29.00	28.25	26.75	23.95	22.40	20.90
-160	36.10	35.25	34.55	33.00	29.35	27.90	26.05
-190	38.00	37.15	36.25	34.45	31.20	29.35	27.55

SERIES 2212-1PF—Relay output, 117 V AC/DC, 10 terminals.

-001 t -118	$33.60	$32.65	$31.90	$30.20	$26.85	$24.90	$23.50
-130	34.80	33.75	33.00	31.25	27.85	25.85	24.35
-160	41.60	40.25	39.20	37.25	33.60	31.35	29.60
-190	43.50	42.10	40.90	38.80	35.05	32.65	30.80

*See time range table for maximum and minimum time settings; and all the ranges and respective times. †-005 (5 sec) and -118 (3 min) non-stock items.

SERIES RG21 REPEAT-CYCLE TIMERS



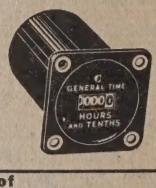
Cam-actuated, single switch timers for rear mounting. Run continuously, repeating a set cycle of make-break switching operations as long as motor is energized. Also operates a single time cycle. Cam adjustable from 7° min. to 169° max. (±3%). SPDT switch rated 20 amps resistive. Timing motor rated 3.7 watts max. at 120 VAC, 60 Hz. Solder lug terminals. 6″ leads. UL Recognized. Size, 2 5/16″ w. x 2 1/2″ d. x 3 1/8″ h. Weight, 1 lb.

Model	Time*	Model	Time*	Model	Time*
RG21-090	7½ sec	RG21-093	1 min	RG21-096	15 min
RG21-091	15 sec	RG21-094	5 min	RG21-097	30 min
RG21-092	50 sec	RG21-095	10 min	RG21-098	60 min

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$18.05	$17.20	$16.25	$15.35	$14.45	$13.55	$12.65

HERMETICALLY SEALED MILITARY TYPE INDICATOR

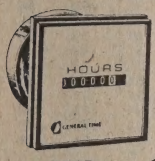
Meets MIL-M-7793C and MIL-E-5272C requirements. Readout, four digits (hours) plus tenths. Temperature range, −55° C to +85° C. Size, 1¾″ sq. x 2 37/64″ deep with 1½″ dia. barrel. Four mounting holes on 1 5/16″ centers. For 115 volts, 400 Hz. MIL-STD-MS-28053-5 solder terminals. Shipping Weight, ¾ lb.



Model No.	Net Each, Lots of						
	1-4	5-9	10-24	25-49	50-99	100-249	250 Up
7010-004	$49.10	$46.60	$44.20	$41.75	$39.25	$36.80	$34.35
7010-010*	49.10	46.60	44.20	41.75	39.25	36.80	34.35

*Non-military, 60 Hz.

ELAPSED TIME INDICATORS



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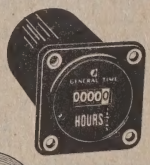

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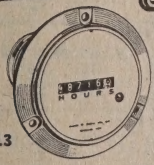
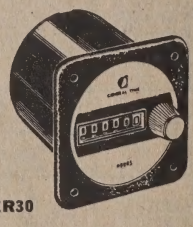


EF13



ER30

Wide variety of meters available for any application where accurate time readings are required. All are synchronous motor driven. Round, square bezel, panel mount and rear mount available. Can be resettable or non-resettable, and readout is digital with a range of five figures plus tenths; in hours and tenths or minutes and tenths. All units operate at 120 VAC, 60 Hz. Operating temperature, −12° C to +55° C. Registers hours and tenths unless otherwise noted. UL Recognized.

Model No.*	Bezel	Depth	Dia. of Unit	Max. Motor Rating, W	Leads or Terminals
EF13 NR	2 7/8″ rd.	1 51/64″	2 17/64″	2.5	6″ leads
EF27 NR	2 3/8″ sq.	1 23/32″	2.077″	5.0	6″ leads
ED71 NR	1¾″ sq.	2 37/64″	1 17/32″	2.5	11¼″ leads
ED72 NR	1¾″ sq.	2 37/64″	1 17/32″	2.5	Solder
EN30 NR	3″ sq.	3 5/16″	2 22/32″	3.7	8-32 studs
ER30 R	3″ sq.	3 5/16″	2 22/32″	3.7	8-32 studs
ER35 R	3½″ rd.	3 5/16″	2 22/32″	3.7	8-32 studs
EN35 NR	3½″ rd.	3 5/16″	2 22/32″	3.7	8-32 studs

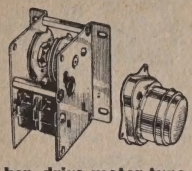
*NR indicates non-reset; R, reset type.

Model No.	Net Each, Lots of						
	1-4	5-9	10-24	25-49	50-99	100-249	250 Up
EF1333†	$13.20	$12.50	$11.85	$11.20	$10.55	$ 9.90	$ 9.20
EF1335	13.20	12.50	11.85	11.20	10.55	9.90	9.20
EF2733†	15.50	14.75	13.95	13.20	12.40	11.65	10.85
EF2735	15.50	14.75	13.95	13.20	12.40	11.65	10.85
ED7112	29.15	27.70	26.20	24.80	23.30	21.85	20.40
ED7212	31.60	30.00	28.40	26.80	25.25	23.70	22.10
EN3012	23.80	22.60	21.40	20.20	19.05	17.85	16.65
EN3512	23.80	22.60	21.40	20.20	19.05	17.85	16.65
ER3020†	34.50	32.80	31.05	29.35	27.60	25.90	24.15
ER3022	34.50	32.80	31.05	29.35	27.60	25.90	24.15
ER3522	34.50	32.80	31.05	29.35	27.60	25.90	241.5

†Registers minutes and tenths.

WRITE FOR INFORMATION ON ITEMS NOT LISTED

SERIES RE62 REPEAT CYCLE MULTI-CAM TIMERS



Same specifications as RG21, except 2 to 6 switches may be actuated during cycle. Run continuously, repeating set cycles of multiple switching operations as long as motor is energized. Complete unit requires one motor and one or more switch stacks. Spanner wrench included to adjust cams. Two-switch unit size, 2 5/16″ h. x 3 5/32″ w. x 3 5/16″ d.; add 1 1/16″ to depth for each additional switch. UL Recognized. **When ordering, specify switch stack model number, drive motor type number, voltage, and frequency.**

SWITCH STACKS

Model No. RE-	*	Net Each, Lots of						
		1-4	5-9	10-24	25-49	50-99	100-249	250 Up
62-091	2	$16.80	$15.95	$15.10	$14.25	$13.45	$12.60	$11.75
63-092	3	22.40	21.30	20.15	19.05	17.90	16.80	15.70
64-093	4	26.90	25.55	24.20	22.85	21.50	17.15	18.85
65-094	5	34.25	32.55	30.85	29.10	27.40	25.70	24.00
66-095	6	39.85	37.85	35.90	33.90	31.90	29.90	27.90

*Number of switches.

DRIVE MOTOR SPECIFICATION

Order one with switch stacks for complete unit.

Model	Time*	Model	Time*	Model	Time*
MP10-390	7½ sec	MP10-393	1 min	MP10-397	30 min
MP10-400	10 sec	MP10-394	5 min	MP10-398	60 min
MP10-391	15 sec	MP10-395	10 min		
MP10-392	30 sec	MP10-396	15 min		

*Cam shaft speed for one revolution.

DRIVE MOTOR INDUSTRIAL PRICING

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$8.70	$8.30	$7.85	$7.40	$6.95	$6.55	$6.10

MINIATURE ELAPSED TIME INDICATORS AND EVENTS COUNTERS

95C

95B

16B

B16C

Conform to MIL-M-7793D stds.; MS numbers shown where applicable. Choice of square or round case with 4-digit readout and operation indicators. AC units rated 0.75 W nom. for 115 and 26 volts, 400 Hz; DC units, 60 mW max. avg. at 23–29 volts; events counters, 1.5 W max, 23–29 VDC with 20 Hz count rate. **Max. Readout:** 9999.

SQUARE CASE ELAPSED TIME INDICATORS

Size: .500″ (±.015″) sq. x 1.094″ lg. max. plus 7/32″ term. Wt., .75 oz. max. Fixed flange types have 1/8″ pos.

Model Number	MIL Spec.	Volts	Flange Type	Temp. Range Min.	Temp. Range Max.
95C8CE	MS17322-6	115 AC	Fixed	−55°C	+ 85°C
95C8CE-50	MS17322-6A	115 AC	Fixed	−65°C	+125°C
95C8CE-200	MS27651	115 AC	Fixed	−65°C	+125°C
95C8A	MS17322-8	115 AC	None	−55°C	+ 85°C
95C8A-50	MS17322-8A	115 AC	None	−65°C	+125°C
95C8C2	MS17322-10	115 AC	Movable	−65°C	+125°C
25C8CE-16	MS27650-05C	26 AC	Fixed	−65°C	+125°C
25C8A	.....	26 AC	None	−65°C	+125°C

ROUND CASE ELAPSED TIME INDICATORS

Size: AC units .690″ dia. max. x 1.760″ lg. max. plus 1/4″ term.; wt., 1 oz. max. DC units .690″ dia. max. x 2.082″ lg. max. plus .312″ term.; wt., 1.75 oz. max. Fixed flange types have 1/8″ pos.

95B8CE	MS17322-2	115 AC	Fixed	−55°C	+ 85°C
95B8CE-50	MS17322-2A	115 AC	Fixed	−65°C	+125°C
95B8A	MS17322-4	115 AC	None	−55°C	+ 85°C
95B8A-50	MS17322-4A	115 AC	None	−65°C	+125°C
95B8C2	MS17322-9	115 AC	Movable	−65°C	+125°C
25B8CE	.....	26 AC	Any	−65°C	+125°C
25B8A	.....	26 AC	None	−65°C	+125°C
16B8CE-70	MS17321-2	28 DC	Fixed	−55°C	+100°C
16B8A-70	MS17321-4	28 DC	None	−55°C	+100°C
16B8C2	MS17321-9	28 DC	Movable	−55°C	+100°C

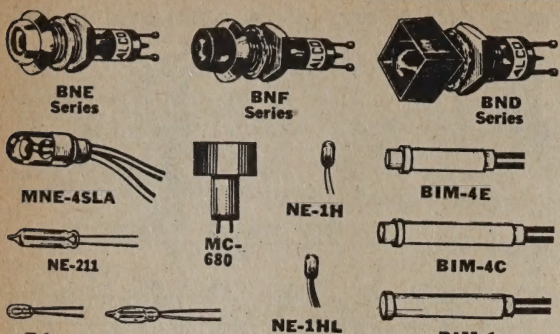
SQUARE CASE EVENTS COUNTERS

Size: .500″ (±.015″) sq. x 1.094″ lg. max. plus 7/32″ term. Wt., .75 oz. Fixed flange type has 1/8″ pos.

B16C8A	.....	28 DC	None	−65°F	+257°F
B16C8CE	.....	28 DC	Fixed	−65°F	+257°F
B16C8C2	.....	28 DC	Movable	−65°F	+257°F

INDUSTRIAL PRICING

Model No.	Net Each, Lots of							
	1-4	5-9	10-24	25-49	50-74	75-99	100-149	150-249
95C, 25C	$44.25	$36.50	$31.00	$25.50	$23.25	$21.75	$20.25	$18.50
95B, 25B	44.25	36.50	31.00	25.50	23.25	21.75	20.25	18.50
16B	160.75	147.00	134.50	123.75	116.50	112.25	107.50	101.50
B16C	51.50	45.50	40.50	37.00	34.00	32.25	31.00	28.75



NEON PILOT LIGHT ASSEMBLIES

BNE Series—Compact lens assembly protrudes slightly above panel; mounts with single 5/16"-32 nut. Operates from 75 VDC without resistor, 115 VAC with resistor (150K for standard intensity, 33K for high intensity); resistor not supplied unless otherwise indicated. Temperature range, −10° C to +70° C. **BNF Series**—Similar to BNE, but with long lens assembly extending further beyond panel for brighter illumination. **BND Series**—Similar to above series, but with square lens assembly; mounts in 3/8" hole. Specify red, amber, clear or white for all models.

Alco No.				Net Each, Lots of			
BNE-	BNF-	BND-	Description	1-24	25-99	100-499	500-999
2	2	2	Std. intensity	$1.04	$0.71	$0.62	$0.52
.....	.....	2R	With inter. resis.	1.09	.74	.65	.55
3	3	3	High intensity	1.09	.74	.65	.55
.....	.....	3R	With inter. resis.	1.19	.81	.71	.60
4R	4R	.....	With inter. resis.	1.19	.81	.71	.60

BRITE GLO® NEON LAMPS

Extremely small size lamp, equivalent to T-1 3/8. Bullseye appearance gives the largest glow where needed on the top. Rounded top places the illuminated area closer to the viewing point. Metal base increases light output and protects lamp from damage.

Alco No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MNE-4B	With short bare leads	$0.59	$0.40	$0.35	$0.30
MNE-4LB	With 10" insulated leads	.69	.47	.41	.35
MNE-4SLB	Same but with metal base	.74	.50	.44	.37

BRITE GLO® INCANDESCENT LAMPS

Ultraminiaturized series mounts in a 3/16" hole. Available with 5 V at 60 mA rated lamps having 100,000 hours life. Model ME-680 can be used for PC boards. Specify red, white, green, blue or yellow (amber for ME Series). With #683 T-1 lamp and mounting rings.

ME-680	With pin contacts	$1.29	$0.88	$0.77	$0.65
ME-680LT*	With 6" insulated leads	1.39	.95	.83	.70
MC-680	With pin contacts	1.49	1.01	.89	.75
MC-680LT*	With 6" insulated leads	1.59	1.08	.95	.80

*Solder tin dipped, hi-temp leads, 24 AWG wire.

PANEL MOUNTED ASSEMBLIES

Model PLN-100 incorporates the crater electrode T-1 3/8 MNE-4L in a black phenolic case. Model PL-105 is ultraminiature in size, a mate to PLN-100. With 10" insulated leads, mt. in 1/4" hole.

PLN-100A	Neon lamp	$0.99	$0.67	$0.59	$0.50
PL-105	Incandescent lamp	.89	.61	.53	.45

EXTRA LONG NEON LAMP

Replaces readout tubes in "overrange" position of digital voltmeters; also usable as "+" or "−" display or where a longer light source than a conventional NE-2 is needed. Bare leads. **Breakdown:** 90 VDC. **Maintained Voltage:** 65 VDC. **Design Current:** 1.3 mA. **Life:** 2,000–8,000 hours.

NE-211	11 mm glow	$0.49	$0.33	$0.29	$0.25
NE-214	14 mm glow	.69	.47	.41	.35

HIGH INTENSITY NEON LAMP

High intensity lamp with lens end magnification. Ignition voltage, 60 VAC or 67 VDC. Recommended 33K ohms ballast resistor at 115 VAC.

NE-1H	With short bare leads	$0.69	$0.47	$0.41	$0.35
NE-1-HL	With 10" insulated leads	.79	.54	.47	.40

SNAP-FIT 110-125 V NEON LIGHT INDICATORS

Unit snapfits into 5/16" mounting hole. Has built-in 30K resistor. Leads, approx. 6" long with heavy insulation, withstand temperatures up to 105° C. Models BIM-1, BIM-1B lenses extend only .075" from panel front. Models BIM-4C, BIM-4E have elongated lens for better side illumination, extend .338" from panel front. Acrylic lens, nylon body. Specify color: Red, amber, clear. UL Listed.

BIM-1	White shoulder	$0.69	$0.47	$0.41	$0.35
BIM-1B	Black shoulder	.69	.47	.41	.35
BIM-4C	Chrome bezel	.74	.50	.44	.37
BIM-4E	Chrome bezel	.74	.50	.44	.37

MINIATURE T-1 1/8 NEON LAMPS

Alco's smallest neon lamp is unique for its size and brilliance. Ignition voltage, 75 VAC or 95 VDC; current should be limited to 800 μA; 150K series resistor recommended for 115 V operation, 180K for 220 V operation. Light output variations possible with changes in voltage or series resistance, with resultant changes in life expectancy of 10,000 hours. Bare leads.

Alco No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MNE-3	Standard intensity	$0.59	$0.40	$0.35	$0.30

NEON LAMP HOLDERS

Low-cost snap type holders for miniature neon lamps such as NE-2; available in five different sizes for particular panel thicknesses; write for details. Specify red, amber or clear; supplied less lamps.

BNG-51, 52, 53, 54, 55	Snap-type neon lamp holder	$0.20	$0.14	$0.12	$0.10

INCANDESCENT LAMP HOLDERS

Relampable miniature holders have 3/8" dia. lens. **MCM-100** is .7" long and mounts with 5/16"-32 nut; for use with No. 685, 718, 1112 or 856 lamp, below. **MCM-175** is 1" long and mounts with 3/8"-32 nut; for use with No. 815, 381, 330, 382, 327 or 387 lamp, below. Specify red, green, amber, blue or white lens.

MCM-100T	Subminiature flange holder	$1.49	$1.01	$0.89	$0.74
MCM-175T	Miniature flange holder	1.69	1.15	1.01	.85

INCANDESCENT LAMP ASSEMBLY

Relampable assembly comes with #680 T-1 lamp (see below); lens unscrews to expose lamp. Specify red, green, blue, yellow or white lens.

BFK-5	Incandescent assembly	$1.79	$1.22	$1.07	$0.90

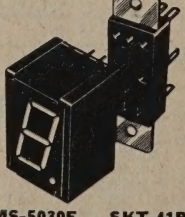
INCANDESCENT LAMPS

Designed for applications where space is at a premium and long life is required. Current ratings are ±10%.

Alco No.	Size	Current, Amps	MSCP	Net Each, Lots of 1-9	10-99	100-499	500-999
5-VOLT TYPES							
680-AS15	T-1†	.060	.032*	$1.25	$0.81	$0.63	$0.54
680-AS25	T-1†	.060	.032	.83	.54	.42	.36
683-AS15	T-1†	.060	.053*	1.25	.81	.63	.54
683-AS25	T-1†	.060	.053	.83	.54	.42	.36
713-AS15	T-1†	.075	.088*	1.25	.81	.63	.54
713-AS25	T-1†	.075	.088	.83	.54	.42	.36
715-AS15	T-1†	.115	.147*	1.25	.81	.63	.54
715-AS25	T-1†	.115	.147	.83	.54	.42	.36
RM3-5V20	T-1†	.020	.020	.99	.64	.50	.43
RM3-5V30	T-1†	.030	.030	.89	.58	.45	.38
685	T-1‡	.060	.050	1.44	.94	.72	.62
718	T-1‡	.115	.147	1.38	.90	.69	.59
815	T-1¾§	.115	.147	.86	.56	.43	.37
6.3-VOLT TYPES							
2181	T-1¾†	.200	.400	$0.65	$0.42	$0.33	$0.28
381	T-1¾§	.200	.400	.86	.56	.43	.37
379	T-1¾#	.200	.400	.86	.56	.43	.37
378	T-1¾•	.200	.400	.95	.62	.48	.41
14-VOLT TYPES							
1112	T-1‡	.065	.150	$2.16	$1.40	$1.08	$0.93
2182	T-1¾†	.080	.300	.69	.45	.35	.30
330	T-1¾§	.080	.500	.83	.54	.42	.36
382	T-1¾§	.080	.300	.86	.56	.43	.37
386	T-1¾#	.080	.300	.90	.59	.45	.39
362	T-1¾•	.080	.300	.99	.64	.50	.43
28-VOLT TYPES							
856	T-1‡	.024	.150	$3.06	$1.99	$1.53	$1.32
327	T-1¾§	.040	.340	.79	.51	.40	.34
387	T-1¾§	.040	.300	.79	.51	.40	.34
388	T-1¾#	.040	.300	.95	.62	.48	.41
399	T-1¾•	.040	.300	1.05	.68	.53	.45

*±15%. †Wire terminals. ‡Subminiature flange. §Miniature flange base. #Miniature grooved base. •Miniature screw base.

INCANDESCENT READOUT INDICATORS



MS-5030E SKT-41B

MS-5030E—Seven-segment plug-in display, molded phenolic housing has large, well styled characters with bright, wide angle view. Reads out numeral plus decimal. Character size, 0.79" high. Case size, .795" w. x .870" d. x 1.30" h. Uses 5 volts at 30 mA per segment. Order socket separately. **MS-250A**—Smaller version of above readouts. With socket and plastic housing. Uses 2.5 V lamps at 20 mA/segment; current drain, 40 mA min. Power consumption, 160 mA min., 400 mA max.

Alco No.	Description	Net Each, Lots of 1-24	25-99	100-499
MS-5030E*	Numeric readout w/decimal	$6.25	$5.31	$4.69
SKT-41B	Socket for MS-5030E	.48	.41	.36
MS-250A*	Numeric readout w/socket	8.25	7.01	6.19
MS-250S*	Symbol readout w/socket	8.25	7.01	6.19

*Add either suffix **R** for red filter or **C** for clear filter.

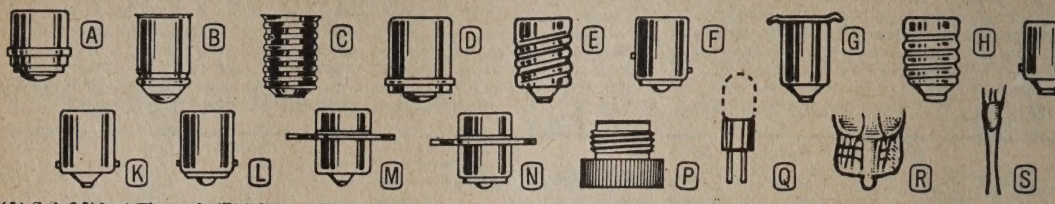
This is a partial listing of miniature and subminiature lamps. Miniature lamps are most commonly used in numerous applications for panel indicators, aircraft, flashlight and radio or TV pilot lights. The subminiature lamps were specifically designed for modern, up-to-date special equipment such as computers, miniature switches, medical electronic equipment, aircraft, aerospace, etc. Many other uses are met where the ultimate in precision miniature lamp techniques is demanded. Engineered to military specifications, they are used as standards on many classified government projects and business machines. Lamps listed herein are the most popular types available from Chicago Miniature. If your application requires a special lamp or one not shown, send us your application needs. We will be pleased to submit our recommendations.

MINIATURE LAMPS

Lamp No.	Design V	Design A	MSCP* Approx.	Base Fig.	Bulb	Net/10-Pack 1-9 Pkgs.	Net/10-Pack 10-49 Pkgs.	Net/10-Pack 50 Up Pkgs.
PR-2	2.38	.50	.80	G§	B-3½	$ 2.15	$ 1.80	$ 1.46
PR-3*	3.57	.50	1.50	G§	B-3½	2.21	1.86	1.50
PR-4	2.33	.27	.40	G§	B-3½	2.21	1.86	1.50
PR-6*	2.47	.30	.45	G§	B-3½	2.21	1.86	1.50
PR-7	3.70	.30	.90	G	B-3½	2.54	2.13	1.73
PR-12	5.95	.50	3.10	G§	B-3½	2.21	1.86	1.50
PR-13	4.75	.50	2.20	G§	B-3½	2.21	1.86	1.50
PR-16	12.5	.25	.27	G	B-3½	3.29	2.77	2.23
12	6.3	.15	.35	Q	G-3½	2.55	2.02	1.87
13*	3.7	.30	.98	H	G-3½	1.75	1.47	1.19
14*	2.47	.30	.50	H	G-3½	1.75	1.47	1.19
27*	4.9	.30	1.4	H	G-4½	2.94	2.13	1.87
31*	6.15	.30	2.0	H	G-4½	2.69	2.57	2.48
40*	6.3	.15	.52	H	T-3¼	1.25	1.06	.88
42*	3.2	.35	.50	H	T-3¼	3.63	3.04	2.48
43	2.5	.50	.50	J	T-3¼	2.78	2.34	1.89
44*	6.3	.25	.90	J	T-3¼	1.50	1.26	.93
45*	3.2	.35	.50	J	T-3¼	2.36	1.99	1.36
46*	6.3	.25	.90	H	T-3¼	1.33	1.13	.86
47*	6.3	.15	.52	J	T-3¼	1.37	1.15	.93
48	2.0	.06	.04	H	T-3¼	2.64	2.24	1.85
49	2.0	.06	.04	J	T-3¼	2.02	1.73	1.42
50	7.5	.22	1.0	H	G-3½	1.92	1.68	1.44
51*	7.5	.22	1.0	J	G-3½	1.56	1.37	1.17
53*	14.4	.12	1.0	J	G-3½	1.62	1.42	1.21
55*	7.0	.41	2.0	J	G-4½	2.36	2.07	1.77
57	14.0	.24	2.0	J	G-4½	1.70	1.49	1.28
67*	13.5	.59	4.0	K	G-6	2.26	1.98	1.70
68*	13.5	.59	4.0	L	G-6	3.16	2.77	2.37
72	22.0	.18	3.0	L	G-6	7.02	6.14	5.27
82*	6.5	1.05	6.0	L	G-6	2.44	2.14	1.83
87*	6.8	1.91	15.0	K	S-8	5.80	5.08	4.35
88*	6.8	1.90	15.0	L	S-8	4.08	3.57	3.06
90*	13.0	.58	6.0	L	G-6	2.52	2.21	1.89
93*	12.8	1.04	15.0	K	S-8	3.20	2.80	2.40
94*	12.8	1.0	15.0	L	S-8	3.86	3.38	2.90
113	1.3	.22	.....	H	GTL-3	3.64	3.07	2.55
123	1.25	.30	10.0	H	G-3½	1.84	1.55	1.14
131*	1.3	.10	.03	H	G-3½	2.02	1.70	1.25
136	1.25	.60	.20	H	G-4½	3.64	2.73	2.37
159	6.3	.15	3.8	R	T-3¼	2.50	2.10	1.69
209	6.5	1.78	15.0	K	B-6	4.28	4.10	3.94
222*	2.25	.25	.....	H	GTL-3	2.50	2.11	1.70
224	2.15	.22	.....	SP‡	GTL-2¾	2.43	2.33	2.24
233	2.33	.27	.42	H	G-3½	2.28	1.94	1.57
239	6.3	.36	.67	J	T-3¼	2.96	2.49	2.03
240	6.3	.36	.67	J	T-3¼	2.70	2.25	1.82
245	2.46	.50	.90	H	G-3½	2.61	2.26	1.83
252	2.5	.35	.....	D	GTL-1¾	26.49	22.96	19.43
253X	2.5	.35	.....	D	GTL-1¾	31.96	27.71	23.45
261	2.5	.35	.....	B	GTL-1¾	51.53	44.68	37.81
276	28.0	.06	.340	B	T-1¾	10.00	8.68	7.34
301*	28.0	.17	3.0	K	G-5	4.68	4.47	4.30
304*	28.0	.30	6.0	L	G-6	5.23	4.39	3.55
305*	28.0	.51	15.0	K	S-8	6.44	5.39	3.97
307*	28.0	.66	21.0	K	S-8	5.05	4.38	4.00
309	28.0	.90	32.0	K	S-11	8.47	7.19	5.82
313*	28.0	.17	.35	J	T-3¼	3.15	2.65	2.14
323*	3.0	.19	.250	P	T-1¼	15.00	12.50	10.00
324	3.0	.19	.250	S	T-1¼	5.48	4.75	4.02
325	3.0	.19	.250	T‡	T-1¼	15.76	13.65	11.56
327*	28.0	.04	.340	D	T-1¾	5.80	4.90	3.94
328*	6.0	.20	.60†	D	T-1¾	3.41	2.85	2.32
330	14.0	.08	.500	D	T-1¾	7.87	6.61	5.34
331	1.35	.06	.01	D	T-1¾	9.49	8.01	6.48
334	28.0	.04	.340	B	T-1¾	8.81	7.40	5.93
337	6.0	.20	.60	B	T-1¾	16.95	14.24	11.52
344	10.0	.014	.002	B	T-1¾	13.47	11.80	10.12
346	18.0	.04	.15	B	T-1¾	12.40	9.81	7.21
363	14.0	.20	2.0	J	G-3½	2.26	1.91	1.59
370	18.0	.04	.15	D	T-1¾	14.98	12.30	10.18
375	3.0	.015	.003	D	T-1¾	21.09	17.93	14.76
376	28.0	.06	.340	D	T-1¾	10.57	8.99	7.40
380	6.3	.04	.020	D	T-1¾	20.77	17.45	14.12
381	6.3	.20	.40	D	T-1¾	11.06	9.29	7.52
386	14.0	.08	.30	B	T-1¾	15.11	12.69	10.27
387*	28.0	.04	.30	D	T-1¾	5.94	4.99	4.04
388	28.0	.04	.30	B	T-1¾	15.03	12.63	10.22
425	5.0	.50	2.3	H	G-4½	2.08	1.80	1.68
502	5.1	.15	.60	H	G-4½	1.68	1.41	1.14
503	5.1	.15	.60	J	G-4½	2.26	1.89	1.54
509K	24.0	.18	2.8	E	G-6	$ 7.34	$ 6.36	$ 5.38
958	5.5	2.00	14.0	L	G-16½	77.50	67.00	61.00
	6.0	.82	5.0					
965	9.8	.50	6.0	H	T-4½	2.96	2.56	2.17
1003	12.8	.94	15.0	K	B-6	2.93	2.44	2.10
1004	12.8	.94	15.0	L	B-6	2.93	2.46	2.05
1034	12.8	1.80	32.0	F	S-8	3.40	3.00	2.75
	14.0	.51	4.0					
1047	26.0	2.70	105.00	K	RP-11	17.41	13.10	11.06
1073*	12.8	1.80	32.00	K	S-8	3.29	2.66	2.39
1129*	6.4	2.63	21.00	K	S-8	3.70	3.10	2.72
1130*	6.4	2.00	21.00	L	S-8	5.52	4.62	4.00
1133*	6.2	3.91	32.00	K	RP-11	6.80	5.47	4.60
1141*	12.8	1.44	21.00	K	S-8	3.19	2.77	2.54
1142*	12.8	1.44	21.00	L	S-8	3.64	3.10	2.59
1143*	12.5	2.00	32.00	K	RP-11	10.56	8.84	7.64
1154*	6.4	2.63	21.00	F	S-8	4.98	4.36	3.74
	7.0	.75	3.0					
1184*	5.5	6.25	50.00	L	RP-11	12.32	10.78	9.24
1209	6.1	4.10	32.00	M	RP-11	23.88	20.90	17.91
1224	34.0	.16	3.8	E	G-6	11.60	10.15	8.70
1251*	28.0	.23	3.0	K	G-6	5.36	4.69	4.02
1252*	28.0	.23	3.0	L	G-6	6.33	5.24	4.59
1385*	28.0	.....	20W	K	R-12	26.79	22.42	19.00
1449	14.0	.20	2.0	H	G-3½	1.92	1.68	1.44
1458	20.0	.25	4.2	H	G-5	5.74	5.02	4.30
1471	12.0	.26	2.3	E	G-6	13.08	11.45	9.81
1476	18.0	.17	2.2	H	T-3	9.58	8.38	7.19
1477	24.0	.17	3.3	H	T-3	11.86	10.38	8.90
1483	6.0	.04	.10	H	G-4½	5.64	4.94	4.23
1487	14.0	.20	1.4	H	T-3¼	3.00	2.63	2.25
1488	14.0	.15	1.5	J	T-3¼	3.20	2.80	2.40
1489	6.5	2.75	25.0	K	T-5	56.46	49.40	42.35
1490	3.2	.16	.20	J	T-3¼	2.50	2.19	1.88
1491*	2.4	.80	1.3	L	G-8	15.74	13.77	11.81
1493	6.5	2.80	23	L	S-8	14.98	13.11	11.24
1503	5.9	6.53	50	M	RP-11	27.00	23.63	20.25
1630	6.5	2.75	23.0	N	S-8	17.72	15.51	13.29
1705D	14.0	.08	.50	S	T-1¾	6.55	5.50	4.45
1728D	1.35	.06	.01	S	T-1¾	4.12	3.50	2.88
1738D	2.7	.06	.04	S	T-1¾	4.84	4.07	3.29
1763	6.1	4.10	32.0	M	S-11	18.41	17.60	16.93
1764D	28.0	.04	.34	M	T-1¾	5.35	4.50	3.64
1767*	2.5	.20	.22	C	T-1¾	7.71	6.30	5.24
1768*	6.0	.20	.60	C	T-1¾	8.87	7.47	6.03
1783D	2.5	.20	.22	S	T-1¾	4.16	3.54	2.90
1813	14.4	.10	.86	J	T-3¼	2.78	2.43	2.09
1815*	14.0	.20	1.4	J	T-3¼	2.34	2.05	1.76
1816	13.0	.33	3.0	J	T-3¼	2.64	2.31	1.98
1819*	28.0	.04	.34	J	T-3¼	3.80	3.33	2.85
1820	28.0	.10	1.6	J	T-3¼	3.62	3.05	2.46
1821	28.0	.17	3.5	H	T-3¼	8.48	7.10	5.76
1822	36.0	.10	2.5	J	T-3¼	7.90	6.82	5.85
1828	37.5	.05	.65	J	T-3¼	6.06	5.58	5.20
1829*	28.0	.07	1.0	J	T-3¼	3.78	3.18	2.59
1835	55.0	.05	1.1	J	T-3¼	7.62	6.40	5.16
1847	6.3	.15	.38	J	T-3¼	1.79	1.51	1.22
1850	5.0	.09	.25	J	T-3¼	3.50	2.94	2.38
1855	6.3	.80	3.6	J	T-4½	6.10	5.30	4.55
1866	6.3	.25	.65	J	T-3¼	2.22	1.87	1.51
1869D	10.0	.014	.002	S	T-1¾	11.50	9.74	7.88
1891	14.0	.24	2.0	J	T-3¼	1.62	1.36	1.10
1892	14.4	.12	.75	J	T-3¼	2.56	2.15	1.75
1893	14.0	.33	2.0	J	T-3¼	1.86	1.57	1.26
2102D	18.0	.04	.15	S	T-1¾	8.58	7.21	5.83
2107D	10.0	.04	.08	S	T-1¾	13.11	11.01	8.90
2112D	6.3	.20	.55	S	T-1¾	7.81	6.56	5.31
2124D	2.5	.35	.....	S	GTL-1¾	21.51	18.00	14.61
2158D	3.0	.015	.003	S	T-1¾	11.60	9.85	8.10
2162D	14.0	.088	.100	S	T-1¾	6.68	5.61	4.54
2180D	6.3	.04	.02	S	T-1¾	11.03	9.27	7.50
2181D	6.3	.20	.40	S	T-1¾	5.99	5.03	4.07
2182D	14.0	.08	.30	S	T-1¾	6.44	5.51	4.38
2185D	28.0	.04	.20	S	T-1¾	11.00	9.24	7.48
2187D	28.0	.04	.30	S	T-1¾	9.31	7.82	6.33

*Mean Spherical Candlepower is the measurement of the total integrated light output of the lamp operated at design voltage. †At 5 volts. ‡Special, not illustrated. ***See following page for MS numbers.*** §Single Contact.

BASE STYLES FOR CHICAGO MINIATURE LAMPS



(A) Sub-Midget Flanged, **(B)** Midget Grooved, **(C)** Midget Screw, **(D)** Midget Flanged, **(E)** Candelabra, **(F)** DC Bayonet Index, **(G)** Miniature Flange, **(H)** Miniature Screw, **(J)** Miniature Bayonet, **(K)** SC Bayonet, **(L)** DC Bayonet, **(M)** SC Prefocus, **(N)** DC Prefocus, **(P)** Threaded Knurled, **(Q)** Bi-Pin, **(R)** Wedge, **(S)** Wire Terminal. (SC for Single Contact; DC for Double Contact.)

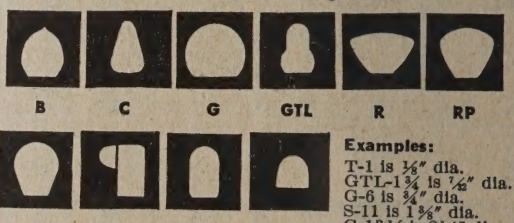
MINIATURE AND SUBMINIATURE LAMPS

Lamp No.	Design V	Design A	MSCP* Approx.	Base Fig.	Bulb	Net/10-Pack 1-9 Pkgs.	10-49 Pkgs.	50 Up Pkgs.
276•	28.0	.06	.340	B	T-1¾	$10.00	$ 8.68	$ 7.34
313	28.0	.17	3.5	J	T-3¼	3.15	2.65	2.14
334	28.0	.04	.340	B	T-1¾	8.81	7.40	5.93
335	28.0	.04	.34	C	T-1¾	15.03	12.63	10.22
336	14.0	.08	.50	B	T-1¾	14.27	11.99	9.70
338	2.7	.06	.04	D	T-1¾	8.56	7.19	5.82
345	6.0	.04	.03	D	T-1¾	14.89	11.66	8.43
349	6.3	.20	.55	D	T-1¾	10.61	9.05	7.48
367	10.0	.04	.08	D	T-1¾	16.89	14.14	11.48
CM8-363	28.0	.04	.....	S	TL-1½	12.26	10.73	9.20
CM8-373	2.5	.35	.....	B	TL-1¾	23.88	20.90	17.91
CM8-374	2.5	.35	.....	S	TL-1¾	21.38	18.71	16.04
380	6.3	.04	.020	D	T-1¾	20.77	17.45	14.12
381	6.3	.20	.40	D	T-1¾	11.06	9.29	7.52
382	14.0	.08	.30	D	T-1¾	11.69	9.82	7.95
399	28.0	.04	.30	C	T-1¾	10.53	8.96	7.33
CM8-428	5.0	.18	.35	D	T-1¾	43.76	38.29	32.82
CM8-503	6.3	.35	.....	J	TL-2¾	68.80	60.20	51.60
634D	6.0	.20	.63	S	T-1¼	10.05	8.70	7.37
680*	5.0	.06	.03	S	T-1	18.98	15.90	12.70
680AS15*	5.0	.06	.03	S	T-1	21.81	18.09	14.70
682*	5.0	.06	.03	A	T-1	22.70	19.00	15.39
682AS15*	5.0	.06	.03	A	T-1	25.48	21.37	21.70
683*	5.0	.06	.05	S	T-1	18.98	15.90	12.70
683AS15*	5.0	.06	.05	S	T-1	21.81	18.29	14.70
685*	5.0	.06	.05	A	T-1	22.70	19.00	15.39
685AS15*	5.0	.06	.05	A	T-1	25.48	21.37	17.20
713*	5.0	.075	.09	S	T-1	18.98	15.90	12.70
713AS15*	5.0	.075	.09	S	T-1	21.81	18.29	14.70
714*	5.0	.075	.09	A	T-1	22.70	19.00	15.39
714AS15*	5.0	.075	.09	A	T-1	25.48	21.37	17.20
715*	5.0	.115	.15	S	T-1	18.98	15.90	12.70
715AS15*	5.0	.115	.15	S	T-1	21.81	18.29	14.70
718*	5.0	.115	.15	A	T-1	22.93	19.20	15.49
718AS15‡	5.0	.115	.15	A	T-1	25.48	21.37	17.20
755	6.3	.15	.33	J	T-3¼	3.15	2.65	2.14
757	28.0	.08	.62	J	T-3¼	4.63	3.89	3.15
965	9.8	.50	6.0	H	T-4½	2.96	2.56	2.17
CM8-967	120	.025	.36	J	T-2	18.76	16.42	14.07
6803	5.0	.06	.03	S	T-¾	26.88	23.52	20.16
6833	5.0	.06	.05	S	T-¾	20.70	17.95	15.19
6839	28.0	.024	.15	A	T-1	24.29	21.05	17.82
7153	5.0	.115	.15	S	T-¾	21.19	18.37	15.55
7216•	5.0	.125	.22	S	T-1	25.27	21.90	18.54
8610•	6.3	.20	.55	S	T-1¼	9.13	7.92	6.70
8627	28.0	.04	.32	S	T-1¼	11.41	9.89	8.38
8628•	6.0	.20	.63	D	T-1¼	16.52	14.32	12.12
8631•	1.35	.06	.006	D	T-1¼	11.87	10.28	8.70
8632	28.0	.04	.32	‡	T-1¼	18.63	16.14	13.66
8635	28.0	.04	.32	§	T-1¼	20.26	17.56	14.87
8637•	3.0	.19	.25	D	T-1¼	19.17	16.62	14.07
8640•	14.0	.08	.50	S	T-1¼	8.67	7.52	6.36
8666	5.0	.08	.15	S	T-1¾	24.65	21.37	18.09
8805D•	5.0	.06	.03	A	T-1¾	6.00	5.10	4.20

*Mean Spherical Candlepower. †Silvered base. ‡Special midget flanged, not illus. §Special screw, not illus. •New vs. former No.: 7216 = CM8-715F1; 8610 = CM8-610; 8628 = CM8-628; 8631 = CM8-631; 8637 = CM8-637; 8640 = CM8-640; 8805 = CM8-805; 276 = 334LSV.

BULB SHAPES AND SIZES

The bulb is the glass envelope which houses the lamp filament assembly, and contains the vacuum or gas seal. A letter and number identifies bulb shape and approximate bulb diameter in eighths of an inch. Popular bulb shapes are:



Examples:
T-1 is ⅛" dia.
GTL-1¾ is ⅛" dia.
G-6 is ¾" dia.
S-11 is 1⅜" dia.
G-16½ is 2⅛" dia.

CM7 SERIES BI-PIN LAMPS

Lamp No. CM7-	Design Volts	Design Amps	MSCP* Approx.	Base Fig.	Bulb	Net/10-Pack 1-9 Pkgs.	10-49 Pkgs.	50 Up Pkgs.
7327	28.0	.04	.34	Q	T-1¾	$ 7.25	$ 6.16	$ 5.07
7328	6.0	.20	.60	Q	T-1¾	6.62	5.79	4.97
7330	14.0	.08	.50	Q	T-1¾	7.40	6.48	5.55
7838	2.7	.06	.04	Q	T-1¾	8.74	7.65	6.56
7375	3.0	.015	.003	Q	T-1¾	15.00	13.13	11.25

*Mean Spherical Candlepower.

STANDARD VOLTAGE LAMPS

Lamp No.	Design Volts	Design Watts	Base Fig.	Bulb	Net Each
3S6/5	120–125	3	E	S-6	$1.100
6S6	115–125	6	E	S-6	.405
6S6	130	6	E	S-6	.469
6S6	145	6	E	S-6	1.100
6S6DC	120	6	L	S-6	.672
6T4½/1	115–125	6	E	T-4½	1.248
7C7	115–125	7	E	C-7	.331
10C7	115–125	10	E	C-7	.592
10C7DC*	115–125	7.0	L	C-7	.794
10S6C	230	10	E	S-6	1.248

NEON GLOW LAMPS

Cold-cathode gas discharge type lamps. Neon gas ionizes and glows when voltage is applied. Lamp 83(5AH) is a circuit glow lamp; all others are neon indicator lamps.

Lamp No. NE-§	Design Volts	Design W	A	Base Fig.	Bulb	Net/10-Pack 1-99 Pkgs.	100-499 Pkgs.	500Up Pkgs.
2(A1A)	105–125	1/17	0.5	S	T-2	$1.77	$ 1.49	$1.18
2D(C7A)*	105–125	1/12	0.7	D‡	T-2	9.52	8.00	6.45
2H(C2A)	105–125AC	1/4	1.9	S	T-2	1.41	1.19	.95
45(B7A)	105–125	1/4	2.0	E	T-4½	13.50	11.40	9.20
48(B9A)	105–125	1/4	2.0	L	T-4½	11.00	9.23	7.45
51(B1A)	105–125	1/25	0.3	J	T-3¼	3.88	3.26	2.64
51H(B2A)	105–125AC	1/7	1.2	J	T-3¼	3.88	3.26	2.64
83(5AH)	60–65	.....	10.0	S	T-2	3.41	2.86	2.31

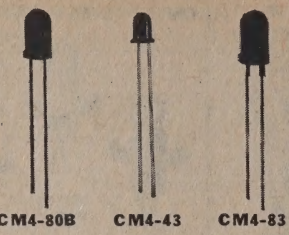
§Numbers in parentheses are ASA (American Standards Association) numbers. ‡Single contact.

★MILITARY (MS) EQUIVALENTS

Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number
PR-3	15610-2	46	15536-1	88	15584-1	313	25231-313	1133	15565-1	1385	35480-2	683‡	24367-683‡
PR-6	15610-1	47	15571-2	90	15569-4	323	25236-323	1141	35478-4	1491	15568-1	685‡	24515-685‡
13	15611-1	51	15573-1	93	35478-93	327	25237-327	1142	15584-4	1767	15612-3	713‡	24367-713‡
14	15611-3	53	15573-3	94	15584-2	328	25237-328	1143	15565-3	1768	15612-1	714‡	24515-714‡
27	15587-1	55	15572-1	131	15611-4	365	15611-2	1154	35481-1	1815	15571-8	715‡	24367-715‡
31	15587-2	64	15569-1	222	28798-222	387	18209	1158	15584-13	1819	15571-6	718‡	24515-718‡
40	15536-4	67	15570-4	301	25238-301	1016	35481-2	1184	15564-1	1829	25231-1829	NE2D	
42	15536-3	68	15569-6	304	15569-8	1073	35478-1073	1240	15618-5	10C7DC	16123	(C7A)	25257-C7A
44	15571-1	82	15569-3	305	35478-305	1129	35478-1129	1251	*	680‡	24367-680‡		(NE-2D)
45	15571-11	87	35478-87	307	35478-307	1130	15584-3	1252	15569-7	682‡	24515-682‡		

*15570-1251. ‡Also AS15 (aged and selected with candlepower indicated) versions; e.g., 680AS15 = 24367-680AS15.

LED INDICATORS



CM4-7000, CM4-8000 SERIES RED T-1¾ SOLID STATE SUBMINIATURE LED INDICATORS

CM4-7 Series bi-pin and CM4-8 Series midget flange LED indicators interchangeable with industry standard T-1¾ incandescent lamps. Available with clear or red, transparent or translucent (diffused) epoxy lens. Bi-pin base has nylon shell, gold-plated nickel pins. Midget flange base has nickel-plated brass shell, phenolic insulator and solder contact. **Luminous Intensity:** 2.0 mcd at 20 mA. **Wavelength:** 660 nM at peak. **Size, CM4-7000 Bi-pin:** .230″ dia. max. x .625″ long, plus two .25″, .020″ dia. gold plated leads. **CM4-8000 Midget Flange:** .245″ dia. lens, .285″ dia. flange, .625″ long.

CM4-7000 SERIES BI-PIN BASE

Operating Range Volts, DC	mA*	Transparent Red CM4-	Transparent Clear CM4-	Translucent Red CM4-	Translucent Clear CM4-
1.4– 1.7	50	7025	7027	7026	7028
1.7– 3.0	50	7001	7013	7007	7019
3.0– 5.0	50	7002	7014	7008	7020
5.0–10.0	30	7003	7015	7009	7021
10.0–14.0	20	7004	7016	7010	7022
14.0–18.0	15	7005	7017	7011	7023
18.0–28.0	10	7006	7018	7012	7024

CM4-8000 SERIES MIDGET-FLANGE BASE

1.4– 1.7	50	8025	8027	8026	8028
1.7– 3.0	50	8001	8013	8007	8019
3.0– 5.0	50	8002	8014	8008	8020
5.0–10.0	30	8003	8015	8009	8021
10.0–14.0	20	8004	8016	8010	8022
14.0–18.0	15	8005	8017	8011	8023
18.0–28.0	10	8006	8018	8012	8024

*Requires external current limiting resistor.

QUANTITY NET PRICES FOR ABOVE

Net Each, Lots of						
1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
$1.47	$1.38	$1.23	$0.99	$0.93	$0.88	$0.83

CM44 SERIES SOLID-STATE LED CARTRIDGE INDICATORS RED-AMBER-GREEN

LED cartridge indicators in red, amber and green have two transparent cap styles (short cylindrical or round cap†) utilizing an internal fresnel ring pattern for optimum visibility. Red GaAsP LED provides typical peak wavelength of 660 nM, Yellow GaP LED—600 nM, Green GaP—560 nM. CM44 available in variety of brightness, color and cap styles; rated voltages available in 10 and 20 mA, although only 20 mA is listed in table. Black anodized aluminum housing, black nylon insulator, stainless steel pins. Further information available on request. Size: .330″ dia. x 1.140″ long, max.

RED LED CARTRIDGE INDICATORS

CML No. CM44-	Oper. Volts DC	mA	Net Each, Lots of 1-9	10-24	25-99	100-249	250-399	500-999	1000-2499
110261	1.6	20	$1.70	$1.63	$1.47	$1.36	$1.25	$1.15	$1.07
110311	3.6	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110021	5.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110041	10.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110061	14.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110081	18.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110101	28.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07

AMBER LED CARTRIDGE INDICATORS

110271	2.2	20	$1.70	$1.63	$1.47	$1.36	$1.25	$1.15	$1.07
110331	3.6	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110121	5.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110141	10.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110161	14.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110181	18.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110201	28.0	20	1.70	1.63	1.47	1.37	1.25	1.15	1.07

GREEN LED CARTRIDGE INDICATORS

110281	2.2	20	$1.70	$1.63	$1.47	$1.36	$1.25	$1.15	$1.07
110351	3.6	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110211	5.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110221	10.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110231	14.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110241	18.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110251	28.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07

†CML Nos. listed are for short cylindrical cap style. To order round cap, change first digit after 44 from 1 to 2 (e.g., **CM44-210011: Round cap, red transparent).**

CM4-20, CM4-21, CM4-22, CM4-23 SERIES RED

Each unit supplied with snap-in mounting clip for panel mounting. Rigid terminals allow device to be connected in a variety of ways, soldered, welded or wire-wrapped, as well as being pluggable. Tin-plated leads. Choice of clear and red lenses, transparent or translucent. **Power Dissipation:** 180 mW (derate 2.0 mW/° C above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA, 2.0 volts max. **Reverse Voltage:** 3 volts. **Storage and Operating Temperature:** −55° C to +100° C. **Wavelength** 660 nM at peak. **Turn On and Turn Off Time:** 50 ns. **Soldering Time at 260° C:** 5 seconds. **Size:** .190″ dia. x .340″ length, plus two .55″ leads. **Hole for mounting clip:** ¼″ dia. **Max. Panel Thk.:** ⅛″.

CML No.	Lens Tint	Lens Diffusion	Luminous Int. @ I_f = 20 mA Typical	Viewing Angle Typical
CM4-20	Clear	Transparent	2.0 mcd	90°
CM4-21	Clear	Diffused	1.6 mcd	90°
CM4-22	Red	Transparent	1.6 mcd	90°
CM4-23	Red	Diffused	0.4 mcd	180°

CM4-43 RED

The red diffused lens and T-1 size make the CM4-43 the perfect choice for high-density array and indicator applications. **Luminous Intensity:** 0.8 mcd at 20 mA. **Peak Wavelength:** 660 nM. **Power Dissipation:** 80 mW (derate 1.1 mW/°C above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA., 2.0 volts max. **Reverse Voltage:** 3.0 volts. **Turn On and Turn Off Time:** 50nS. **Size:** 0.124″ dia. max. x 0.2″ length, plus two 1.00″ min. leads.
No. CM4-43—Net Each, Lots of 1–99 ..... **$0.39**
100–999 ..... **$0.34**; 1000–Up ..... **.30**

CM4-50 SERIES RED

Small size, gallium arsenide phosphide light-emitting diode packaged in a planer configuration for use on circuit boards or where size and low cost are major considerations. Clear epoxy lens for uniform brightness. Tin-plated leads can be bent at a right angle and inserted through the holes of a PC board for dip or wave soldering. **Power Dissipation:** 80 mW (derate 1.0 mW/°C for CM4-50; 1.6 mW/°C for CM4-53. **Forward Voltage:** 1.6 volts typical at 20 mA, 2.0 volts max. **Reverse Voltage:** 3 volts. **Storage/Operating Temperature:** −55° C to +100° C. **Wavelength:** 660 nM at peak. **Turn On/Turn Off Time:** 50 ns. **Soldering Time at 260° C:** 5 sec. **Size:** .100″ dia. x .100″ h. Length, including leads, .6″ min.

CML No.	Lens Tint	Lens Diffusion	Luminous Int. at I_f = 20 mA Typical	Net Each, Lots of 1-99	100-999	1000-Up
CM4-50	Clear	Transparent	1.4 mcd	$0.46	$0.26	$0.18
CM4-53	Red	Diffused	1.0 mcd	.45	.25	.17

CM4-80B SERIES RED

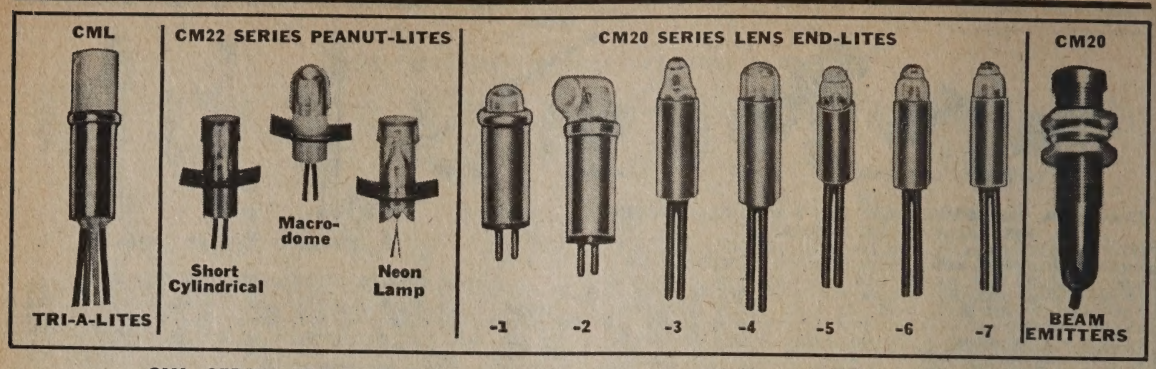
Red gallium arsenide phosphide light-emitting diodes. Variety of lens styles and luminance intensities widens design choice. **Power Dissipation:** 180 mw (derate 2.0 mW/°C. above 25° C. **Forward Voltage:** 1.7 volts typical at 20 mA, 2.2 volts max. **Reverse Voltage:** 5.0 volts. **Wavelength:** 660 mM at peak. **Turn On and Turn Off Time:** 50nS. **Size:** 0.2″ dia. x 0.340″ length plus two 0.75 leads.

CML No.	Lens Tint	Lens Diffusion	Luminous Int. @ I_F = 20mA. Typical	Viewing Angle Typical
CM4-80B	Clear	Transparent	2.0 mcd	72°
CM4-81B	Clear	Diffused	1.6 mcd	72°
CM4-82B	Red	Transparent	2.0 mcd	72°
CM4-84B	Red	Diffused	1.6 mcd	80°
CM4-85B	Red	Diffused	0.8 mcd	110°
CM4-86B	Red	Diffused	0.8 mcd	150°

Net Each, Lots of 1–99 ..... **$0.34**
100–999 ..... **$.028**; 1000–Up ..... **.23**

CM4-83 RED

The red diffused lens and T-1¾ size are ideally suited for panel and back-lighting applications. **Luminous Intensity:** 3.0 mcd at 20 mA. **Wavelength:** 660nM. **Power Dissipation:** 180 mW (derate 2.0 mW/°C above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA, 2.2 volts max. **Reverse Voltage:** 3.0 volts. **Turn On and Turn Off Time:** 50nS. **Size:** 0.2″ dia x 0.34″ length, plus two 0.85″ leads.
No. CM4-83—Net Each, Lots of 1–99 ..... **$0.34**
100–999 ..... **$0.28**; 1000–Up ..... **.23**



CML SERIES TRI-A-LITES

A unique indicator device that appears white in the off position and turns red, green, or yellow when an input voltage is applied to one of the color coded lead wires. Uses type T-¾ lamps rated at 5V, .115A/lamp, 15,000 hours average life. Unit mounts in a 19/64" clearance hole with 10380 mounting clip (supplied). Housed in clear anodized aluminum with translucent polycarbonate cap. Terminates in 24 AWG stranded wire, color coded, end stripped leads. CML 9501-RGY has flush style white cap; CML 9601-RGY has a short cylindrical style white cap. Optional features are other color combinations, different lead length, hot stamped legends, and black anodized housings.

CML Number CML-	Net Each, Lots of*					
	1-9	10-24	25-99	100-249	250-499	500-999
9501 or 9601-RGY	$7.06	$6.48	$6.02	$5.33	$4.83	$4.28

CM22 SERIES PEANUT-LITES

Versatile, low-cost indicator assemblies with incandescent or neon lamps. Ideal for stereo amplifiers, mobile equipment, instrumentation, computer and display panels, etc. Incandescent types have high-temperature polycarbonate shells with T-1¾ lamps and 6" wire leads, permanently potted in place for strain relief. Available in two cap styles, macrodome (Type CM22-1) or short cylindrical (Type CM22-2). Type CM22-1000 Peanut-Lites include T-2 neon lamps which snap into place in butyrate shells. All types include speed clips for mounting.

HOW TO ORDER: Insert two digits in CML number, replacing **XX**, to indicate cap color: **01**, clear transparent; **02**, red transparent; **03**, amber transparent; **04**, green transparent (incandescent types only); or **05**, white translucent. CM22-1000-01-A1A (NE-2) has clear transparent short cylindrical cap with NE-2 neon lamp.

WITH T-1¾ INCANDESCENT LAMP

Size: .340" dia. x .800" long; #24 AWG wire leads, 6" long. Type B lead insulation per MIL-W-16878. Semi-resilient thermosetting resin encapsulant. Numbers shown are for macrodome cap; for short cylindrical cap, change **1** in CML number to **2**; e.g., CM22-2-XX-15; prices are the same.

CML Number* CM22-	Volts	Amps	M.S. C.P.	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
1-XX-15	1.35	.06	.01	500	$1.04	$0.95	$0.88	$0.78
1-XX-17	2.5	.20	.22	500	1.04	.95	.88	.78
1-XX-18	2.7	.06	.04	6,000	1.04	.95	.88	.78
1-XX-43	3.0	.015	.004	10,000	1.71	1.57	1.46	1.29
1-XX-50	3.0	.03	.02	1,800	1.35	1.23	1.15	1.01
1-XX-41	5.0	.06	.05	100,000	1.04	.95	.88	.78
1-XX-12	6.0	.04	.03	10,000	.98	.90	.83	.74
1-XX-06	6.0	.20	.63†	1,000	1.04	.95	.88	.78
1-XX-52	6.3	.20	.55	3,000	.93	.85	.79	.70
1-XX-27	6.3	.04	.02	50,000	1.13	1.04	.97	.86
1-XX-19	6.3	.075	.22	500	1.04	.95	.88	.78
1-XX-13	6.3	.20	.40	50,000	1.30	1.20	1.11	.98
1-XX-20	6.3	.20	.55	3,000	1.04	.95	.88	.78
1-XX-07	10.0	.014	.002	10,000	.93	.85	.79	.70
1-XX-08	10.0	.04	.08	5,000	.98	.90	.83	.74
1-XX-28	14.0	.08	.30	50,000	1.13	1.04	.97	.86
1-XX-09	14.0	.08	.50	750	.93	.85	.79	.70
1-XX-10	18.0	.04	.15	10,000	1.26	1.16	1.08	.95
1-XX-40	28.0	.04	.30	25,000	1.09	1.00	.93	.82
1-XX-29	28.0	.04	.30	25,000	1.13	1.04	.97	.86
1-XX-11	28.0	.04	.34	7,000	1.09	1.00	.93	.82
1-XX-45	28.0	.06	.34	25,000	1.09	1.00	.93	.82

WITH T-2 NEON LAMP

Short cylindrical cap. Size: .370" dia. x .850" long; Dumet wire leads. For 105–125 VAC. **Series Resistance Required:** A1A, 200K ohms; A9A, 62K ohms; C2A, 22K ohms.

CML Number* CM22-1000-	Nominal mA	Nominal Watts	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
XX-A1A(NE-2)	0.3	1/25	25,000	$0.27	$0.25	$0.23	$0.20
XX-A9A(NE-2E)	1.0	1/10	5,000	.27	.25	.23	.20
XX C2A(NE-2H)	2.0	1/4	5,000	.27	.25	.23	.20

*See How To Order information above and insert two digits in CML no. as indicated. †At 5 volts.

CM20 SERIES SUBMINIATURE LENS END-LITES

Subminiature end-lites produce axially centered spots for minimal adjustment problems and easy lamp replacement. Ideal for close proximity use with photo sensors, where an intense spot of luminous and infrared energy is required. Typical applications include encoders, tape sensors, card readers and optical scanners. Types CM20-1, -2, -17 and -19 have clear anodized aluminum cartridge body; stainless steel terminals (CM20-19 #24 AWG stranded wire leads); nylon insulation. Types CM20-3 thru -7 and -20 have gold anodized aluminum shell; #24 AWG stranded wire leads; Type B insulation per MIL-W-16878; semi-resilient thermosetting resin encapsulation. Types CM20-5 thru CM20-7 are small enough to be mounted on .250" centers for card reader applications. **Spot Specifications:** CM20-1, -19: When projected ¾" from end of bulb, spot covers ⅛" dia. target, concentric with long axis at minimum intensity of 750 ft.-candles. CM20-2: When projected 1" from end of bulb, spot covers 1" dia. target with minimum of 350 ft.-candles. CM20-3: When projected ⅜" from end of bulb, spot covers 1/16" dia. target concentric with sleeve; intensity ⅜" from bulb is minimum of 750 ft.-candles; spot is narrow elliptical. CM20-4: Same as CM20-3 except covers ⅛" dia. target; spot is "round" elliptical. CM20-5 thru -7, -20 have no spot specifications, but have axially aligned lamp; CM20-17 spot is axially aligned with housing.

CML No.	Lamp Type	V	Amps (±10%)	Aver. Life, Hours	Net Each, Lots of* 1-9	10-49	50-99	100-499
CM20-1	TL-1¾	2.5	.350	10,000	$2.50	$2.32	$2.06	$1.86
CM20-2	SL-2	2.5	.325	10,000	4.70	4.37	3.86	3.50
CM20-3	TL-1¾	2.5	.350	10,000	2.56	2.39	2.11	1.91
CM20-4	TL-1¾	2.5	.350	10,000	3.12	2.90	2.57	2.33
CM20-5	TL-1¼	2.5	.200	1,000	2.50	2.32	2.06	1.86
		2.1	.180	10,000				
CM20-6	TL-1¼	6.0	.200	1,000	2.34	2.17	1.92	1.74
		5.1	.180	10,000				
CM20-7	TL-1¼	28.0	.040	1,000	2.40	2.23	1.97	1.79
		24.0	.036	10,000				
CM20-17	TL-1¾	5.0	.180	10,000	4.25	3.95	3.49	3.16
CM20-19	CM20-1 with 6" leads				3.14	2.92	2.58	2.34
CM20-20	TL-1¾	5.0	.180	10,000	4.72	4.38	3.88	3.51

CM20 SERIES BEAM EMITTERS

Compact assemblies designed to project narrow cones of infrared and luminous energies over distances of 3" to 20". Spots produced are round, varying from ⅜" to 1¼". Infrared outputs are approximately 75% of input power, ideal for integration with silicon type sensors. Low power consumption (782 mW), axially aligned spots, easy mounting and long life. **Volts:** 2.3. **Current:** .340 amps, ±10%. **Average Life:** 10,000 hours. **Construction:** Anodized aluminum housing, #24 AWG wire leads, semi-resilient thermosetting resin encapsulation. **Size:** .475" dia.; CM20-8-01, 1.33" long; CM20-9-01, 2.08" long.

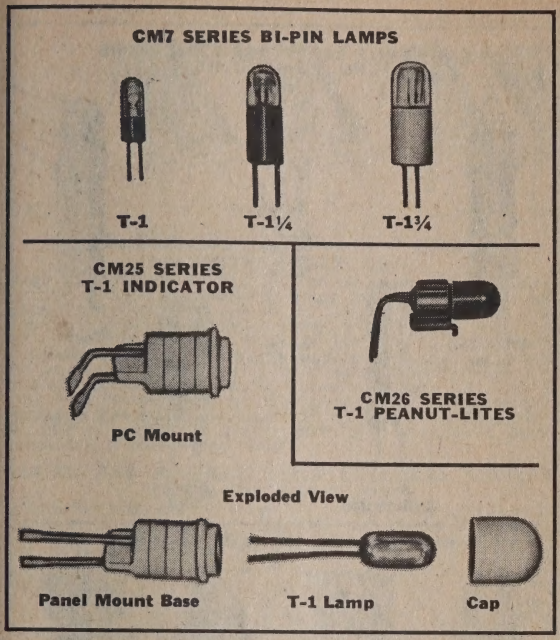
CML Number	Focal Distance	Projected Spot Dia.	Net Each, Lots of* 1-9	10-24	25-49	50-99
CM20-8-01	7"–9"	1¼"–1¾"	$20.51	$18.15	$16.44	$14.60
CM20-9-01	14"–16"	1"–1⅛"	23.68	20.95	18.96	16.85

CM39 SERIES LAMP FILTERS (Not Illus.)

Slip-on filters are translucent, precision molded silicone rubber caps; for subminiature and miniature lamps. They assume basic lamp contours, are impervious to color shift. Replaceable and reusable. Temperature range, −62° to +225° C. **TO ORDER:** Add suffix to CML Number to indicate color: **-1**, red; **-2**, blue/white; **-3**, clear; **-4**, amber; **-5**, green; **-6**, blue; **-7**, yellow.

CML Number	Lamp Size	Size, In. Dia. x L.	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
CM39-02	T-¾	.090 x .230	$0.29	$0.27	$0.25	$0.22	$0.20
CM39-03	T-1	.096 x .3125	.29	.27	.25	.22	.20
CM39-04	T-1	.096 x .219	.29	.27	.25	.22	.20
CM39-05	T-1¼	.175 x .265	.29	.27	.25	.22	.20
CM39-06	T-1¾	.214 x .375	.29	.27	.25	.22	.20
CM39-07	T-1¾	.218 x .3125	.29	.27	.25	.22	.20
CM39-08	T-1¾	.325 x .279	.29	.27	.25	.22	.20
CM39-09	T-2	.250 x .522	.29	.27	.25	.22	.20
CM39-10	T-2	.250 x .272	.29	.27	.25	.22	.20
CM39-11	T-3¼	.370 x .672	.38	.35	.33	.29	.26
CM39-12	S-6	.584 x 1.120	.38	.35	.33	.29	.26

★WRITE FOR PRICES ON LARGER QUANTITIES



CM7 SERIES BI-PIN INDICATOR LAMPS

High quality, low cost incandescent lamps fit CM21 sockets below. Available with variations (right angle leads, flying leads, etc.) or with commercial or aviation color coating, on special order. Write for information.

T-1 BI-PIN INDICATOR LAMPS

Size: .130″ dia. x .350″ long; .020″ dia. pins, .190″ long.

CML No. CM7-	Volts	Amps	M.S. C.P., Approx.	Aver. Life, Hours	Net Each, per Pkg. of 10	100	500
7680	5.0	.06	.03	100,000	$1.78	$1.56	$1.34
7683	5.0	.06	.05	100,000	1.78	1.56	1.34
7714	5.0	.075	.09	25,000	1.78	1.56	1.34
7715	5.0	.115	.15	40,000	1.78	1.56	1.34
8095	10.0	.027	.10	10,000	2.76	2.42	2.07
8097	12.0	.06	.15	16,000	2.76	2.42	2.07
8099	18.0	.026	.15	16,000	2.76	2.42	2.07
7839	28.0	.024	.15	16,000	2.45	2.14	1.84

T-1¼ BI-PIN INDICATOR LAMPS

Size: .200″ dia. x .600″ long; .020″ dia. pins, .250″ long.

7636	1.35	.03	.006	100	$3.01	$2.63	$2.26
7637	3.0	.19	.25	350	2.59	2.27	1.94
7660	6.0	.04	.03	1,000	3.01	2.63	2.26
7628	6.0	.20	.63	1,000	2.59	2.27	1.94
7646	14.0	.08	.50	1,000	2.59	2.27	1.94

T-1¾ BI-PIN INDICATOR LAMPS

Size: .230″ dia. x .625″ long; .020″ dia. pins, .250″ long.

7931	1.35	.06	.01	500	$0.95	$0.83	$0.71
7868	2.5	.350	.21	10,000	.91	.80	.68
7968	2.5	.20	.22	500	.91	.80	.68
7838	2.7	.06	.04	6,000	.87	.77	.66
7375	3.0	.015	.003	10,000	1.50	1.31	1.13
7945	6.0	.04	.03	10,000	1.00	.88	.75
7328	6.0	.20	.60	1,000	.66	.58	.50
7380	6.3	.04	.02	50,000	.98	.84	.69
7377	6.3	.075	.22	500	.74	.65	.55
7349	6.3	.20	.55	3,000	.91	.78	.64
7381	6.3	.20	.40	50,000	.98	.84	.69
7344	10.0	.014	.002	10,000	1.23	1.05	.86
7382	14.0	.08	.30	50,000	.98	.84	.69
7330	14.0	.08	.50	750	.74	.65	.56
7370	18.0	.04	.15	10,000	1.30	1.14	.98
7459	22.0	.04	.30	2,000	1.24	1.09	.93
7387	28.0	.04	.30	25,000	.97	.82	.68
7327	28.0	.04	.34	7,000	.73	.62	.51

CM21 SERIES SOCKETS FOR BI-PIN LAMPS

Pushfit Teflon® sockets accept all CM7 Bi-Pin lamps listed above. Snap directly into panels, brackets or PC boards. Type CM21-1 has beryllium copper contacts with .050″ pin centers, for T-1 lamps. CM21-2 has phosphor bronze contacts with gold over silver plating, with .125″ pin centers for T-1¼ and T-1¾.

®Registered DuPont trademark.

CML No.	For Bi-Pin Lamp	Mtg. Hole	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
CM21-1	T-1	.122″	$0.73	$0.67	$0.62	$0.55	$0.50
CM21-2	T-1¼, T-1¾	.221″	.95	.87	.81	.72	.65

CM26 SERIES T-1 PEANUT-LITES

Low cost commercial substitutes for MS25446 and MS90308 indicators. Each T-1 Peanut-Lite contains a subminiature lamp sealed in a high-temperature polycarbonate housing. Lamps range from 3 to 28 volts. Can be mounted with spring mounting clips (CM26-1012) which are provided with T-1 Peanut-Lites. Type 10384 clip for circuit board mounting is also available. Three types of terminal material are available—CM26-1 has .750″ tinned wire leads; CM26-2 has .312″ long .020″ nickel pins; CM26-3 has #26 AWG stranded wire, 6″ long. White, red, amber, green, and blue caps are standard; other colors available. Also available are special length and type pins and leads. Write for information. **HOW TO ORDER:** For cap color, substitute for **XX** in CML number: **05,** white; **07,** red; **09,** amber; **10,** green; **11,** blue. Example: CM26-1-07-19 is the wire lead version with red cap and 5V, .06A lamp.

CML Number* CM26-	Volts	Amps	M.S. C.P.	Aver. Life, Hrs.	Net Each, Lots of* 1-9	10-24	25-99	100-249
1-XX-02	3.0	.0125	.001	16,000	$2.00	$1.84	$1.71	$1.50
1-XX-05	5.0	.03	.03	75,000	1.78	1.63	1.51	1.34
1-XX-19	5.0	.06	.05	50,000	.98	.91	.84	.75
1-XX-20	5.0	.11	.05	25,000	.98	.91	.84	.75
1-XX-14	10.0	.027	.10	10,000	1.57	1.44	1.34	1.19
1-XX-15	12.0	.06	.15	16,000	1.57	1.44	1.34	1.19
1-XX-17	18.0	.026	.15	16,000	1.86	1.71	1.58	1.40
1-XX-18	28.0	.024	.15	16,000	1.88	1.72	1.60	1.41
2-XX-02	3.0	.0125	.001	16,000	2.17	2.00	1.86	1.64
2-XX-05	5.0	.03	.03	75,000	1.95	1.79	1.66	1.47
2-XX-19	5.0	.06	.05	50,000	1.17	1.07	.99	.87
2-XX-20	5.0	.11	.05	25,000	1.17	1.07	.99	.87
2-XX-14	10.0	.027	.10	10,000	1.75	1.61	1.49	1.32
2-XX-15	12.0	.06	.15	16,000	1.75	1.61	1.49	1.32
2-XX-17	18.0	.026	.15	16,000	2.03	1.87	1.74	1.53
2-XX-18	28.0	.024	.15	16,000	2.05	1.89	1.75	1.56
3-XX-02	3.0	.0125	.001	16,000	2.21	2.03	1.89	1.67
3-XX-05	5.0	.03	.03	75,000	2.00	1.84	1.71	1.50
3-XX-19	5.0	.06	.05	50,000	1.21	1.11	1.04	.92
3-XX-20	5.0	.11	.05	25,000	1.21	1.11	1.04	.92
3-XX-14	10.0	.027	.10	10,000	1.79	1.65	1.53	1.35
3-XX-15	12.0	.06	.15	16,000	1.79	1.65	1.53	1.35
3-XX-17	18.0	.026	.15	16,000	2.07	1.90	1.77	1.57
3-XX-18	28.0	.024	.15	16,000	2.10	1.92	1.78	1.58

*See How To Order information above and insert two digits in CML no. as indicated.

CM25 SERIES T-1 INDICATORS

Subminiature T-1 indicators which meet MS-90308. Unbased T-1 lamp is inserted into housing and cap is snapped on to hold lamp and provide color identification. Features include dimpled terminals (patent pending) for positive electrical contact and internally flared lead guides for easy wire-terminal lamp insertion. Hot-stamped legends can be provided with new cylindrical cap style. Units are small enough to mount on .250″ centers and still allow adequate wiring room and space to replace lamp. Base and cap are polycarbonate. **HOW TO ORDER:** For **base style,** substitute for first **X** in CML number: **5,** panel mount; **6,** PC mount. For **cap style,** substitute for second **X** in CML number: **7,** round; **8,** lens; **9,** square. For **cap color,** substitute for final **XX** in CML number; **01,** clear transparent; **02,** red transparent; **03,** yellow transparent; **04,** green transparent; **05,** white translucent; **06,** blue transparent; **07,** red translucent; **08,** yellow translucent; **09,** green translucent; **10,** blue translucent; **11,** amber translucent. Final number is lamp number; to order less lamp, omit lamp number. **Example:** CM25-5-706-715 is panel mounted with a round, blue transparent cap and a 5 V, .115 A lamp. CM25-5-706 is the same thing without the lamp. Also available as MS90308-X (**2,** red; **4,** yellow; **5,** green; **6,** blue; **9,** clear) -XXX (lamp number 680, 683, or 715). Requires .190″/.186″ dia. round mounting hole.

CML No. CM25- X-XX-	Volts	Amps	M.S. C.P.	Aver. Life, Hrs.	Net Each, Lots of* 1-9	10-24	25-99
7201	1.5	.015*	.01†	5,000	$2.31	$2.13	$1.98
8846	3.0	.008*	.001†	16,000	2.31	2.13	1.98
2128	3.0	.0125*	.001†	16,000	2.31	2.13	1.98
7207	3.0	.060	.03	100,000	2.31	2.13	1.98
7210	5.0	.036	.03	75,000	2.31	2.13	1.98
6150	5.0	.060	.15	5,000	1.87	1.73	1.60
680	5.0	.060	.03	100,000	1.87	1.73	1.60
683	5.0	.060	.05	100,000	1.87	1.73	1.60
713	5.0	.075	.09	25,000	1.87	1.73	1.60
715	5.0	.115	.15	40,000	1.87	1.73	1.60
7218	10.0	.027	.10	10,000	2.33	2.14	1.99
7219	12.0	.060	.15	16,000	2.33	2.14	1.99
7220	18.0	.026	.15	16,000	2.33	2.14	1.99
6838	28.0	.024	.15	16,000	2.41	2.21	2.05

*±20%. †Nominal.

Base Only

CML Number	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
CM25-1005	$0.71	$0.65	$0.60	$0.54	$0.49
CM25-1006	.71	.65	.60	.54	.49

Cap Only

CM25-1007-XX*	$0.23	$0.21	$0.19	$0.18	$0.15
CM25-1008-XX*	.23	.21	.19	.18	.15
CM25-1009-XX*	.23	.21	.19	.18	.15

*Replace **XX** with color indicators; see How to Order, above.

★**WRITE FOR PRICES ON LARGER QUANTITIES**

CML SERIES CARTRIDGE INDICATORS

Cartridge housings with incandescent or neon lamps; cool operating temperatures for long life. Mount in cartridge holder, or panel mounting with speed clip (not included). Clear anodized aluminum housings, nylon insulation, transparent or translucent polycarbonate or butyrate (color matched to industrial standards) caps. Meet requirements of MIL-L-3661. Stainless steel pins are located off-center for polarization. Stainless steel pin terminals, or #24 AWG wire leads. Available with hot stamped legends; write for prices. **Body Size:** .284" dia. x .634" long.

HOW TO ORDER: Insert two interfixes in CML number, replacing **XX** shown in tables below. First interfix indicates cap style and terminal configuration: **1,** flush cap with wire leads; **2,** short cylindrical cap with wire leads; **3,** long cylindrical cap with wire leads; **4,** macrodome cap with wire leads; **5,** flush cap with pin terminals; **6,** short cylindrical cap with pin terminals; **7,** macrodome cap with pin terminals; **8,** long cylindrical cap with pin terminals. Second interfix indicates cap type: **1,** butyrate, transparent; **2,** butyrate, translucent; **3,** polycarbonate, transparent; or **4,** polycarbonate, translucent.

Also replace final **X** in CML no., to indicate cap color: **1,** red; **2,** green; **3,** amber; **4,** blue; **5,** white; **6,** yellow; or **7,** clear. Examples: CML-530077 has clear transparent flush cap, pin terminals, and 10 V, 14 mA lamp. CML-140431 has red translucent flush cap, wire lead terminals, and 3.0 V, 15 mA lamp. CML-830012 has green transparent long cylindrical cap, pin terminals and 0.3 mA, 1/25 watt neon lamp.

WITH T-1¾ INCANDESCENT LAMPS

CML Number* CML-	Volts	Amps	M.S. C.P., Approx.	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
XX015X	1.35	.06	.01	500	$1.08	$1.00	$0.92	$0.83
XX017X	2.5	.20	.22	500	1.12	1.04	.96	.85
XX018X	2.7	.06	.04	6,000	1.05	.96	.87	.79
XX043X	3.0	.015	.004	10,000	1.75	1.66	1.51	1.29
XX012X	6.0	.04	.03	10,000	.97	.90	.83	.73
XX006X	6.0	.20	.63	1,000	.97	.90	.83	.73
XX027X	6.3	.04	.02	50,000	1.26	1.16	1.06	.97
XX019X	6.3	.075	.22	500	1.12	1.04	.96	.85
XX013X	6.3	.20	.40	50,000	1.17	1.05	.97	.89
XX020X	6.3	.20	.55	3,000	1.12	1.04	.96	.85
XX007X	10.0	.014	.002	10,000	1.50	1.33	1.23	1.12
XX008X	10.0	.04	.08	5,000	1.56	1.41	1.30	1.18
XX028X	14.0	.08	.30	50,000	1.26	1.16	1.06	.97
XX009X	14.0	.08	.50	750	.97	.87	.81	.75
XX010X	18.0	.04	.15	10,000	1.29	1.19	1.08	.97
XX040X	28.0	.04	.20	50,000	1.19	1.09	1.02	.90
XX029X	28.0	.04	.30	25,000	1.25	1.14	1.05	.95
XX011X	28.0	.04	.34	7,000	1.04	.96	.87	.79

WITH T-2 INCANDESCENT LAMPS (NO CAP)

CML Number CML-	Volts	Amps	End Ft.-Candles, Approx.	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
0X047X	10	.017	100	5,000	$1.38	$1.27	$1.19	$1.05
0X069X	12	.170	2500	5,000	1.38	1.27	1.19	1.05
0X048X	16	.017	150	5,000	1.44	1.32	1.22	1.08
0X035X	28	.040	2000	5,000	1.38	1.27	1.19	1.05
0X033X	48	.053	1500	5,000	1.38	1.27	1.19	1.05
0X068X	60	.050	2600	5,000	1.38	1.27	1.19	1.05

WITH NEON LAMPS (105-125 VAC)

CML Number* CML-	Nominal mA	Nominal Watts	Built-in Resis.	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
XX001X	0.3	1/25	220K†	25,000	$0.97	$0.90	$0.83	$0.73
XX004X	0.8	1/10	68K†	25,000	.97	.90	.83	.73
	1.2‡	1/9	22K	2,000				
XX014X	1.7§	1/45	33K	5,000	1.90	1.75	1.62	1.44
XX016X	2.0§	1/4	22K	14,000	1.90	1.75	1.62	1.44
XX022X	1.9§	1/4	30K†	25,000	.85	.78	.72	.64
XX023X	1.0§	1/10	56K	8,500	1.90	1.75	1.62	1.44
XX024X	0.7§	1/15	100K	25,000	1.90	1.75	1.62	1.44
XX025X	0.7§	1/15	None	25,000	.85	.78	.72	.64
XX030X	0.9	1/8	47K	12,000	2.02	1.85	1.72	1.52
XX031X	0.35	1/16	150K	16,000	2.02	1.85	1.72	1.52
XX032X	0.3	1/25	220K	25,000	2.02	1.85	1.72	1.52
XX036X	0.7§	1/15	None	25,000	.92	.84	.78	.69
XX042X	1.0§	1/10	56K	100,000#	1.90	1.75	1.62	1.44

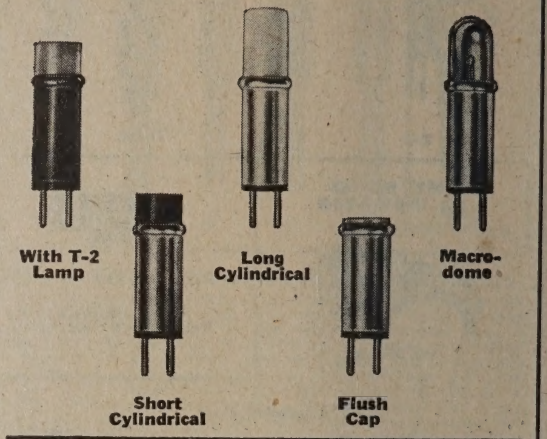
*See How To Order information above, and add two interfixes and suffix, as indicated. †Valve of external resistor required. ‡Not available in flush cap style. §Available only in long cylindrical and macrodome cap styles. #Over 100,000 hours.

No. CML-10380 Cartridge Indicator Mounting Clip—For mounting CML series indicators directly in panel, in 9/32" clearance hole. Spring tempered steel. Net Each, Lots of 1-9 . . . . . **10c***

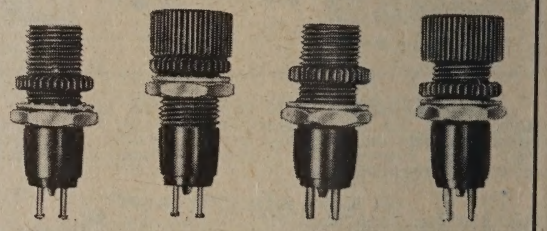
No. CM21-3 Cartridge Indicator Connector—Accepts CML series indicators for low-cost mounting (not in panels). Phenolic body, cadmium plated brass contacts. Net Each, Lots of 1-9 . **29c***

★WRITE FOR PRICES ON LARGER QUANTITIES

CML SERIES CARTRIDGE INDICATORS AND HIDE-A-LITES



CML SERIES CARTRIDGE HOLDERS



CML SERIES HIDE-A-LITES

Electrical and mechanical specifications identical to CML Series Cartridge Indicators except all indicators appear **white** in off position and take on color only when activated. Colors available: Red, green, blue, amber. Translucent cap only. **HOW TO ORDER:** Replace **XX** in CML number with 50, 60, 70, or 80 to indicate cap style and terminal configuration—**50,** flush, pin; **60,** short cylindrical, pin; **70,** long cylindrical, pin; **80,** macrodome, pin. Replace final suffix **X** with R, G, B, or A for activated color—**R,** red; **G,** green; **B,** blue; **A,** amber. Example: CML 50406 W/R—Flush, translucent cap, 6 volt, .20A, white (red when activated).

CML Number* CML- XX4	V	A	M.S. C.P.	Avg. Life, Hrs.	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
17 W/X	2.5	.20	.22	500	$1.77	$1.63	$1.51	$1.34	$1.21
06 W/X	6.0	.20	.63	1,000	1.64	1.50	1.39	1.23	1.12
52 W/X	6.3	.20	.55	3,000	1.64	1.50	1.39	1.23	1.12
19 W/X	6.3	.075	.22	500	1.77	1.63	1.51	1.34	1.21
13 W/X	6.3	.20	.40	50,000	1.92	1.76	1.64	1.45	1.31
20 W/X	6.3	.20	.55	3,000	1.77	1.63	1.51	1.34	1.21
28 W/X	14.0	.08	.30	50,000	1.92	1.76	1.64	1.45	1.31
09 W/X	14.0	.08	.50	750	1.64	1.50	1.39	1.23	1.12
53 W/X	14.0	.09	.50	10,000	2.21	2.03	1.89	1.67	1.51
10 W/X	18.0	.04	.15	10,000	1.92	1.76	1.64	1.45	1.31
54 W/X	22.0	.04	.30	2,000	1.92	1.76	1.64	1.45	1.31
40 W/X	28.0	.04	.30	25,000	1.92	1.76	1.64	1.45	1.31
11 W/X	28.0	.04	.34	7,000	1.67	1.54	1.43	1.26	1.14
45 W/X	28.0	.06	.34	25,000	2.16	1.98	1.84	1.62	1.48
55 W/X	28.0	.06	.60	5,000	2.31	2.12	1.97	1.74	1.58

*See How To Order information above.

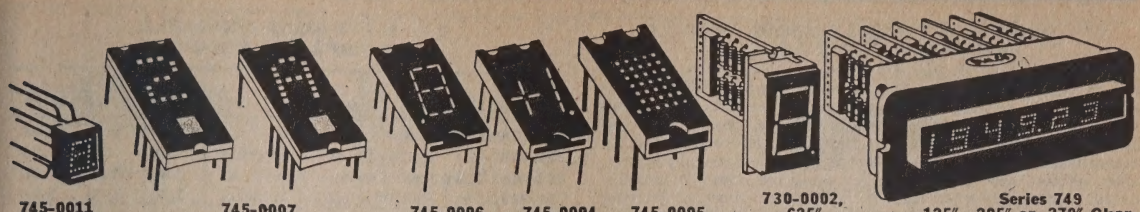
CML SERIES CARTRIDGE HOLDERS

Panel mounting holders for T-1¾ or T-2 lamps. Body, collar and facing nut are black anodized aluminum. Molded phenolic insulation. Turret terminals are spring brass, gold over nickel plate; solder cup terminals are spring brass, tintilate plate. Types 10202-1 and 10203-1 have 9/32" thick knurled collar nut. Mount in round or "D" hole, .375" dia., in panels to 15/32" thick (when not using collar nut). Terminal pins are polarized.

CML Number CML-	Mounting	Termi-nals	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
10202-0	Front/rear	Turret	$1.01	$0.93	$0.83	$0.77	$0.70
10202-1	Front	Turret	1.15	1.06	.94	.88	.80
10203-0	Front/rear	Solder	1.01	.93	.83	.77	.70
10203-1	Front	Solder	1.15	1.06	.94	.88	.80

DIALIGHT LED Readouts

DIALCO®



745-0011 745-0007 745-0006 745-0004 745-0005 730-0002, .625" Series 749 .125" .205" or .270" Char.

MODEL 745-0011 DIODE-LITE™ READOUT (CHARACTER HEIGHT .100")

Single digit readout module designed for use in hand operated, portable or desk top instruments such as calculators, data terminals, test equipment and status indicators. Solid state, extremely long life and high reliability. Highly legible bright red characters read at 3 to 5 ft.; wide 140° viewing angle. Fully encapsulated, withstands rough production handling and user environments. Variable brightness; compact, 12 digits in less than 3" panel width; IC compatible. **Forward Voltage:** 1.65 volts at 5 mA. **Peak Wavelength:** 660 nM bright red. **Reverse Voltage:** 3 V. **Operating Temperature Range:** −20° C to +100° C. **Size:** Overall, .220" w. x .125" d. x .270" h.; digit, .090" w. x .125" h. **Characters:** 0 to 9 with decimal point.

SERIES 745 READOUTS, HEXADECIMAL DISPLAY (CHARACTER HEIGHT .270")

Compatible with most TTL and DTL circuits. Standard 14 or 16 pin DIP. Gallium arsenide phosphide light source, single-plane wide angle visibility. Available with left or right decimal. **Reverse Voltage at 25° C Ambient:** 6 volts, each segment; 3 volts, decimal point. **Peak Forward Current:** 75 mA. **Continuous Forward Current:** Each segment or decimal point, 30 mA; total for 745-0003 or 745-0006, 240 mA; total for 745-0004, 150 mA. **Luminance:** 550 fL. typical. **Wavelength at Peak Emission:** 6500° A. **Static Forward Voltage:** 3.2 V typ. **Ambient Temperature Range:** 0° to 70° C. **Size:** 745-0006, overall, .400" w. x .120" d. x .740" h.; digit, .187" w. x .270" h. 745-0004, overall, .400" w. x .120" d. x .740" h.; digit, .270" h.; plus sign, .130" w. x .170" h. **Characters:** 745-0006, 0 to 9, five special functions and blank (total 16); 745-0006 has decimal point to left. 745-0004, plus-minus one with a decimal point. Model 745-0007 has hexadecimal display with left and right hand decimals. Model 745-0008 has numeric display with left hand decimal including latch. Model 745-0009 has numeric display, left hand decimal, plus counter and latch.

MODEL 745-0005 ALPHA-NUMERIC DISPLAY (CHARACTER HEIGHT .300")

Gallium arsenide phosphide display mounted on a 14 pin dual inline substrate and cast within an electrically non-conductive transparent epoxy. High brightness, low power requirements, single-plane wide-angle visibility, compatible with USASCII and EBCDIC codes. Complete alpha-numeric and symbol capability, 35 dot matrix. 5 x 7 array with X-Y select and decimal point. **Reverse Voltage at 25° C Ambient:** 3 volts. **Peak Forward Current:** Each diode, 100 mA. **Continuous Forward Current:** Each diode, 20 mA; total, 400 mA. **Luminance:** 300 fL typical. **Wavelength at Peak Emission:** 6500° A typ. **Static Forward Voltage:** 1.6 V typ. **Ambient Temperature Range:** 0° to 70° C. **Size:** Overall, .400" w. x .120" d. x .740" h. **Characters:** Alpha-numeric with decimal point.

SERIES 730 DIODE-LITE READOUTS (CHARACTER HEIGHT .625")

Unique lens design in seven segment format results in bright highly legible red characters with lowest cost per character for comparable size. Available in green on special request. **Models 730-0001 and 730-0002:** Decoder/driver requires four lines or bits of information in a 8421 BDC code for each character in display. Terminals are brought out on PC board where user has the option of wiring directly to it or using an edge connector, automatic blanking of leading and/or trailing edge zeros, resulting in easily readable displays. Display malfunction can be checked by built-in lamp-test. Model 730-0001 comes without decimal point and Model 730-0002 includes decimal point. **Models 730-0004 and 730-0005:** These units require a resistor for each LED. Resistor value is 180 ohms ¼ watt for 5 volts operation. 730-0004 includes decimal point, 730-0005 is plus-minus one module with decimal point. **Model 730-0011:** Plus-minus one module with decimal point with resistors. **Model 730-1002:** Readout with decoder/driver. **Model 730-1005:** Plus-minus. **Model 730-1011:** Plus-minus with PC board. SPECIFICATIONS: **Supply Voltage per Character (Typical):** 730-0002, 5 V at 175 mA; 730-0004, 5V at 120 mA; 730-0005 and 730-0011, 5V at 105 mA; 730-1002, 5 V at 281 mA; 730-1005, 5 V at 175 mA; 730-1011, 5 V at 175 mA. **Logical Inputs:** Four lines of BCD per character. **Logic "1":** 2.4–5.5 volts. **Logic "0":** 0–.8 volt sink mA. **Operating Temperature:** 0–70° C. **Size:** .688" w. x .473" d. x 1.375" h. all models; Model 730-0002 with 1.589" x 1.062" h., decoder/driver; Model 730-0011 with 1.589" x 1.062" h, resistors card.

SERIES 730 FOR BEZEL ASSEMBLY MOUNTING

Same as Series 730 above, but mounts in Series 733 bezel assembly.

730-0007—Same as 730-0002. **730-1007**—Same as 730-1002.
730-0009—Same as 730-0004. **730-1009**—Same as 730-1004.
730-0010—Same as 730-0005. **730-1010**—Same as 730-1005.
730-0012—Same as 730-0011.

SERIES 733 BEZEL ASSEMBLIES

Dialco No.	*	Panel Cutout†	Mtg. Ctrs.	Dialco No.	*	Panel Cutout†	Mtg. Ctrs.
733-0002	2	1.570"	1.906"	733-0007	7	5.010"	5.346"
733-0003	3	2.258"	2.594"	733-0008	8	5.698"	6.034"
733-0004	4	2.964"	3.282"	733-0009	9	6.386"	6.722"
733-0005	5	3.634"	3.970"	733-0010	10	7.074"	7.410"
733-0006	6	4.322"	4.658"				

*No. of characters. †Height of panel cutout, 1.114", all models.

SERIES 749 READOUT ASSEMBLIES (CHARACTER HEIGHT .100", .190", .270" & .300")

The 749 Series displays are supplied with a stylish black bezel for simplified panel mounting of multi-digit groupings. The displays feature bright, highly legible characters in a 7-segment format, .100", .190", and .270" in height. The alphanumeric display is a 5 x 7 dot matrix, with a .300" high character. When supplied with decoder/drivers, latch and counters, all components are either mounted on a PC board, or provided as an integral MSI chip, with terminations provided for automatic blanking of leading and/or trailing edge zeros and for intensity control. The user has the option of hard wiring to the board or using edge card connectors.

Dialco Number	Characters	Dimensions A"	Dimensions B"	Dialco Number	Characters	Dimensions A"	Dimensions B"
749-0701	1	.958	1.259	749-0601	1	1.100	1.401
749-0702	2	1.379	1.680	749-0602	2	1.663	1.964
749-0703	3	1.800	2.101	749-0603	3	2.226	2.527
749-0704	4	2.221	2.522	749-0604	4	2.787	3.088
749-0705	5	2.642	2.943	749-0605	5	3.352	3.653
749-0706	6	3.063	3.364	749-0606	6	3.915	4.216
749-0707	7	3.484	3.785	749-0607	7	4 478	4.779
749-0708	8	3.905	4.206	749-0608	8	5.041	5.342
749-0709	9	4.326	4.627	749-0609	9	5.603	5.904
749-0710	10	4.747	5.048	749-0610	10	6.167	6.488

A = panel cutout, B = mounting centers
Dimensions also apply to 749-08xx & 749-12xx.
Dimensions also apply to 749-09xx.

Dialco Number	Dialco Number	Characters	Dimensions A"	Dimensions B"
749-0101	749-0201	1	.899	1.218
749-0102	749-0202	2	.899	1.218
749-0103	749-0203	3	1.587	1.906
749-0104	749-0204	4	1.587	1.906
749-0105	749-0205	5	2.275	2.594
749-0106	749-0206	6	2.275	2.594
749-0107	749-0207	7	2.963	3.282
749-0108	749-0208	8	2.963	3.282
749-0109	749-0209	9	3.651	3.970
749-0110	749-0210	10	3.651	3.970

A = panel cutout, B = mounting centers
Dimensions also apply to 749-10xx and 749-11xx.

SERIES 749 READOUT ASSEMBLIES

Character Height	Description	Complete* Assembly Series No.	Module Part No.	Bezel No.* for use with Modules	Modified Modules for Individual Mounting
.100"	Display w/Decoder	749-01xx	740-0023	743-00xx	740-0021
.190"	Display w/Decoder	749-02xx	740-0024	743-00xx	740-0022
.270"	Display w/Decoder/Driver	749-06xx	740-0006	743-10xx	740-0050
.270"	Display	749-07xx	745-0006	743-20xx	—
.270"	Display w/Decoder/Driver & Latch	749-09xx	740-0012	743-10xx	740-0011
.100"	Display w/Decoder & Latch	749-10xx	740-0029	743-00xx	—
.190"	Display w/Decoder & Latch	749-11xx	740-0030	743-00xx	—
.270"	Hexadecimal Display w/Latch, Decoder/Driver	749-12xx	745-0007	743-20xx	—
.300"	Alphanumeric	749-08xx	745-0005	743-20xx	—

*The last two digits are determined by the number of digits in the assembly.

710 SERIES INCANDESCENT READOUT ASSEMBLY (CHARACTER HEIGHT 1.00″)

Readouts assembled of the 710 Series Modules are readable at over 30 feet and are well suited to close viewing. Each module can display ten numerals and ten letters. Mounting possibilities are extended due to the module being made in two sections separable at the plane of the lamp holder. The seven (or eight) lamps are retained in the front portion and the terminals are in the rear. Either section may be permanently mounted. Options include: integral point at the lower right for display as a decimal; integral point at the upper left for display (with the former) as a colon; and a ± module, with or without decimal point. **Size:** 1.75″ h. x 1.25″ w. x 1.246″ max. d. Available with solder blade or PC terminals.

Dialco Numbers	Module Description	Volts	Net Each 1-9	10-24	25-99
710-0300-005	w/o lamps		$ 5.43	$ 5.02	$ 4.64
710-0300-015	w/380 lamps	6	9.63	9.22	8.84
710-0300-025	w/344 lamps	15	7.18	6.77	6.39
710-0300-035	w/AIH neon lamps	160DC	7.81	7.40	7.02
710-0300-075	w/521-9058 lamps	5	7.18	6.77	6.38
710-0301-005	w/decimal, w/o lamps		6.23	5.78	5.33
710-0301-015	w/dec., w/380 lamps	6	11.03	10.58	10.13
710-0301-025	w/dec., w/344 lamps	15	8.23	7.78	7.33
710-0301-035	w/dec., w/AIH lamps	160DC	8.95	8.50	8.05
710-0301-075	w/dec., w/521-9058 lamps	5	8.23	7.78	7.33
710-0302-005	w/colon, w/o lamps		6.23	5.78	5.33
710-0302-015	w/col., w/380 lamps	6	11.03	10.58	10.13
710-0302-025	w/col., w/344 lamps	15	8.23	7.78	7.33
710-0302-035	w/col., w/AIH lamps	150DC	8.95	8.50	8.05
710-0302-075	w/col., w/521-9058 lamps	5	8.23	7.78	7.33
710-0304-005	±, w/dec., w/o lamps		7.30	6.76	6.24
710-0304-015	±, w/dec., w/380 lamps	6	10.30	9.76	9.24
710-0304-025	±, w/dec., w/344 lamps	15	8.55	8.01	7.49
710-0304-035	±, w/dec., w/AIH lamps	160DC	9.00	8.46	7.94
710-0304-075	±, w/dec., w/521-9058 lamps	5	8.55	8.01	7.49
710-0305-005	±, w/o lamps		6.38	5.91	5.46
710-0305-015	±, w/380 lamps	6	8.78	8.31	7.86
710-0305-025	±, w/344 lamps	15	7.38	6.91	6.46
710-0305-035	±, w/AIH lamps	160DC	7.74	7.27	6.82
710-0305-075	±, w/521-9058 lamps	5	7.38	6.91	6.46
710-0306	Display Face	—	4.37	4.05	3.74
710-0307	Display Face, w/dec.	—	5.09	4.71	4.35
710-0308	Display Face, w/col.	—	5.09	4.71	4.35
710-0310	± Display Face, w/dec.	—	5.63	5.22	4.82
710-0311	± Display Face	—	4.79	4.44	4.10

Change last digit of catalog number to 9 for PC terminals.

711 SERIES STATUS DISPLAYS (DISPLAY AREA .95″ x .95″)

These are auxiliary modules providing a back-lighted transparency that can display explanatory captions. The lighted area may present a single message, or it may be divided into 2, 3, 4, or 6 areas, individually switchable. Status displays provide great flexibility since the display transparency is produced photographically from the customer's design. Identical in size and mounting to the 710 Series.

Model	Description	Net Each 1-9	10-24	25-99
711	Status display w/legends	$10.55	$9.39	$8.30
	Status display w/o legends	7.55	6.99	6.45
	Status dis. w/leg., PC mtg.	8.72	7.69	6.74
	Status dis. w/o leg., PC mtg.	5.72	5.30	4.89

Artwork charges are in addition to those listed.

712 & 713 SERIES ACCESSORIES FOR 710 & 711 MODULES

Series Numbers	Description	Net Each 1-9	10-24	24-99
712-0103-001	Red Window—1 Module	$ 0.53	$ 0.50	$0.48
712-0103-002	Red Window—2 Modules	.88	.83	.79
712-0103-003	Red Window—3 Modules	1.10	1.04	.98
712-0103-004	Red Window—4 Modules	1.32	1.25	1.18
712-0103-005	Red Window—5 Modules	1.62	1.53	1.45
712-0103-006	Red Window—6 Modules	1.92	1.81	1.72
712-0103-007	Red Window—7 Modules	2.18	2.06	1.95
712-0103-008	Red Window—8 Modules	2.44	2.31	2.18
712-0103-009	Red Window—9 Modules	2.70	2.55	2.42
712-0103-010	Red Window—10 Modules	2.96	2.80	2.65
713-0100-001	Mtg. Bars—1 Module	3.52	3.31	3.11
713-0100-002	Mtg. Bars—2 Modules	4.36	4.10	3.85
713-0100-003	Mtg. Bars—3 Modules	4.90	4.66	4.38
713-0100-004	Mtg. Bars—4 Modules	5.60	5.26	4.94
713-0100-005	Mtg. Bars—5 Modules	6.56	6.17	5.79
713-0100-006	Mtg. Bars—6 Modules	7.40	6.96	6.53
713-0100-007	Mtg. Bars—7 Modules	8.36	7.86	7.38
713-0100-008	Mtg. Bars—8 Modules	9.28	8.72	8.19
713-0100-009	Mtg. Bars—9 Modules	10.32	9.70	9.11
713-0100-010	Mtg. Bars—10 Modules	11.24	10.57	9.92

For green windows, change -0103- to -0105-.
For amber windows, change -0103- to -0107-
Mounting Bars are priced in pairs

755 SERIES PLANAR READOUT DISPLAYS (CHARACTER HEIGHT 0.550″)

These gas-discharge displays are exceptionally bright (210 ft Lamberts, nom) and do not wash out even in direct sunlight The orange-neon glow and non-segmented continuous character font minimize eye fatigue while enhancing readability. The displays also feature: wide viewing angle, life expectancy of 10 years, resistance to shock and vibration, low power dissipation, and low cost. U.L. Listed. **Power requirement:** 180VDC; **Size:** 755-0001 and 755-0002, overall, 1.12″ h. x 1.082″ w. x 0.255″ d., plus 0.26″ terminals; 755-003, overall, 1.12″ h. x 1.593″ w. x 0.255″ d., plus 0.26″ terminals.

Model No.	Module Description	Volts	Net Each 1-9	10-24	25-99
755-0001	Readout display—1½ digits	180DC	$6.34	$6.34	$6.34
755-0002	Readout display—2 digits	180DC	6.34	6.34	6.34
755-003	Readout display—3 digits	180DC	9.51	9.51	9.51

CONNECTORS

No. 501-0703-009—20-pin connector for 755-0001, -0002.
Net Each, Lots of: 1-99 ..... **$1.60**
No. 501-0704-009—30-pin connector for 755-003.
Net Each, Lots of: 1-9 ..... **$2.40**

704-1607 DECODER/DRIVER FOR 755 SERIES READOUT DISPLAYS

A 16-pin IC package for decoding the 8421 BCD code into appropriate outputs to drive the 755 Series neon displays.

704-1549 AND 704-1554 DECODER/DRIVERS

The 704-1549 and 704-1554 are seven-segment decoder/drivers designed to convert four lines of 8421 BCD code into the appropriate outputs to drive seven-segmented readouts. Both units contain provisions for automatic leading and/or trailing edge zero suppression, and an active low-input Lamp Test which overrides all other inputs, except B1, to check the display. In addition, the B1 input is also available for controlling the brightness of the display by modulating the input from an external, variable-duty-cycle source. The outputs of the 704-1549 decoder are open-collector transistors with active low outputs able to drive all lamps up to a maximum of 15 volts with a sinking capability of 30mA. The active high outputs of the 704-1554 decoder provide typical source currents of 2mA per output.

DIALIGHT LED Indicator Lights

DIALCO®

SERIES 249

Cylindrical

Stovepipe

SERIES 507

Cylindrical

Stovepipe

Datalamp Holder

249 SERIES ULTRAMINIATURE INDICATOR LIGHTS WITH RED, GREEN OR YELLOW DIODE-LITES (LED)

Complete solid state indicator package consisting of light source, housing and lens, ready for permanent panel mounting. Light source is a solid state (LED) lamp that provides the advantages of low power with extremely long life measured in years. Compatible with IC's (can be driven directly by RTL, DTL and TTL logic). Unique lens design uses an internal fresnel ring to assure maximum distribution of the light output. Positive terminal is marked "+" for proper installation. Mounting bushing and flange ring are black anodized aluminum; terminals are low carbon steel, solder plated; lens is high strength plastic. Size: 7/8" behind panel (including 3/16" terminals); 3/8"-32 threaded body with 1/2" hex nut; fits panels to 5/16" thick. Lens, 9/32" dia. x 3/16".

SERIES 249 WITH RED LED

VDC at 20 mA	Lens Color	Dialco Lens No.		Net Each, 1-9*
		Short Cylindrical	Short Stovepipe	
3.6	Red	249-7867-3331-504	249-7867-3731-504	$2.70
3.6	White	249-7867-3335-504	249-7867-3735-504	2.70
3.6	Clear	249-7867-3337-504	249-7867-3737-504	2.70
5	Red	249-7868-3331-504	249-7868-3731-504	2.70
5	White	249-7868-3335-504	249-7868-3735-504	2.70
5	Clear	249-7868-3337-504	249-7868-3737-504	2.70
6	Red	249-7869-3331-504	249-7869-3731-504	2.70
6	White	249-7869-3335-504	249-7869-3735-504	2.70
6	Clear	249-7869-3337-504	249-7869-3737-504	2.70
10	Red	249-7870-3331-504	249-7870-3731-504	2.70
10	White	249-7870-3335-504	249-7870-3735-504	2.70
10	Clear	249-7870-3337-504	249-7870-3737-504	2.70
14	Red	249-7871-3331-504	249-7871-3731-504	2.70
14	White	249-7871-3335-504	249-7871-3735-504	2.70
14	Clear	249-7871-3337-504	249-7871-3737-504	2.70
28	Red	249-7872-3331-504	249-7872-3731-504	2.92
28	White	249-7872-3335-504	249-7872-3735-504	2.92
28	Clear	249-7872-3337-504	249-7872-3737-504	2.92

SERIES 249 WITH GREEN LED

Green white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 249 with red LED and change 4th and 5th digits from 78 to **79** (e.g., 249-**79**67-3335-504). For green transparent lens use following Part Nos.:

VDC	Short Cylindrical	Short Stovepipe
3.6	249-7967-3332-504	249-7967-3732-504
5	249-7968-3332-504	249-7968-3732-504
6	249-7969-3332-504	249-7969-3732-504
10	249-7970-3332-504	249-7970-3732-504
14	249-7971-3332-504	249-7971-3732-504
28	249-7972-3332-504	249-7972-3732-504

SERIES 249 WITH YELLOW LED

Yellow, white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 249 with red LED and change 4th and 5th digits from 78 to **80** (e.g., 249-**80**67-3335-504). For yellow transparent lens use following Part Nos.:

VDC	Short Cylindrical	Short Stovepipe
3.6	249-8067-3333-504	249-8067-3733-504
5	249-8068-3333-504	249-8068-3733-504
6	249-8069-3333-504	249-8069-3733-504
10	249-8070-3333-504	249-8070-3733-504
14	249-8071-3333-504	249-8071-3733-504
28	249-8072-3333-504	249-8072-3733-504

★QUANTITY PRICING

249 AND 507 SERIES WITH RED LED

Series	VDC	Net Each, Lots of						
		1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
249	3.6–14	$2.70	$2.39	$2.21	$2.04	$1.88	$1.73	$1.58
249	28	2.92	2.59	2.41	2.21	2.04	1.89	1.72
507	3.6–14	1.87	1.66	1.53	1.41	1.30	1.19	1.09
507	28	2.07	1.83	1.69	1.55	1.43	1.32	1.20

249 AND 507 SERIES WITH GREEN OR YELLOW LED

249	3.6–14	$2.96	$2.62	$2.44	$2.24	$2.06	$1.91	$1.74
249	28	3.21	2.85	2.65	2.44	2.24	2.08	1.90
507	3.6–14	2.07	1.83	1.68	1.55	1.43	1.32	1.20
507	28	2.27	2.01	1.87	1.70	1.57	1.45	1.33

Cartridge Connector—Ask for No. **515-0050** or **515-0012.**
Speed Clip—Ask for No. **515-0051.**

507 SERIES DATALAMP CARTRIDGES WITH RED, GREEN OR YELLOW SOLID STATE DIODE-LITES

Light source is a solid state lamp that provides the advantages of low power with extremely long life and reliability. IC compatible; interchangeable with standard incandescent cartridges. Oper. temperature, −55° to +60° C. For operation directly from RTL, DTL or TTL logic, the 10 mA cartridge is recommended; for optimum brightness, the 20 mA cartridge is recommended. Unique lens design features an internal fresnel ring to assure maximum distribution of light output. Polarity is marked on housing; terminal base is keyed. Housing is black anodized aluminum for high contrast; connections are stainless steel pins mounted in nylon insulated header, offset for polarization; lens is high strength plastic, permanently attached. Cartridge may be mounted with Datalamp Holder or cartridge connector with speed clip (listed below). Size, .284" dia. x 1.140" max. overall (including .203" terminals).

20 mA DATALAMP CARTRIDGES WITH RED LED

VDC	Lens Color	Dialco Lens No.		Net Each, 1-9*
		Short Cylindrical	Short Stovepipe	
3.6	Red	507-4756-3331-500	507-4756-3731-500	$1.87
3.6	White	507-4756-3335-500	507-4756-3735-500	1.87
3.6	Clear	507-4756-3337-500	507-4756-3737-500	1.87
5	Red	507-4757-3331-500	507-4757-3731-500	1.87
5	White	507-4757-3335-500	507-4757-3735-500	1.87
5	Clear	507-4757-3337-500	507-4757-3737-500	1.87
6	Red	507-4758-3331-500	507-4758-3731-500	1.87
6	White	507-4758-3335-500	507-4758-3735-500	1.87
6	Clear	507-4758-3337-500	507-4758-3737-500	1.87
10	Red	507-4759-3331-500	507-4759-3731-500	1.87
10	White	507-4759-3335-500	507-4759-3735-500	1.87
10	Clear	507-4759-3337-500	507-4759-3737-500	1.87
14	Red	507-4760-3331-500	507-4760-3731-500	1.87
14	White	507-4760-3335-500	507-4760-3735-500	1.87
14	Clear	507-4760-3337-500	507-4760-3737-500	1.87
28	Red	507-4761-3331-500	507-4761-3731-500	2.07
28	White	507-4761-3335-500	507-4761-3735-500	2.07
28	Clear	507-4761-3337-500	507-4761-3737-500	2.07

20 mA DATALAMP CARTRIDGES WITH GREEN LED

Green, white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 507 with red LED and change 4th and 5th digits from 47 to **48** (e.g., 507-**48**56-3335-500). For green transparent lens use following Part Nos.:

VDC at 20 mA	Short Cylindrical	Short Stovepipe
3.6	507-4856-3332-500	507-4856-3732-500
5	507-4857-3332-500	507-4857-3732-500
6	507-4858-3332-500	507-4858-3732-500
10	507-4859-3332-500	507-4859-3732-500
14	507-4860-3332-500	507-4860-3732-500
28	507-4861-3332-500	507-4861-3732-500

20 mA DATALAMP CARTRIDGES WITH YELLOW LED

Yellow, white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 507 with red LED and change 4th and 5th digits from 47 to **49** (e.g., 507-**49**56-3335-500). For yellow transparent lens use following Part Nos.:

VDC at 20 mA	Short Cylindrical	Short Stovepipe
3.6	507-4956-3332-500	507-4956-3732-500
5	507-4957-3332-500	507-4957-3732-500
6	507-4958-3332-500	507-4958-3732-500
10	507-4959-3332-500	507-4959-3732-500
14	507-4960-3332-500	507-4960-3732-500
28	507-4961-3332-500	507-4961-3732-500

Series 507 Datalamp Cartridges also available at 10 mA. Write for complete information.

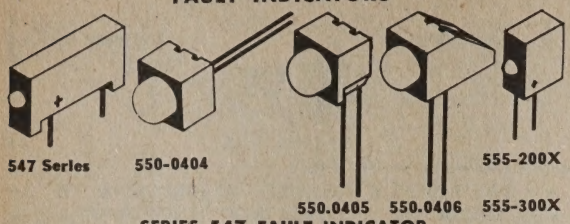
DATALAMP HOLDERS FOR 507 SERIES

Black anodized mtg. bushing, collar, flange nut; gold plated phosphor bronze terminals. Series 508 has collar (33/64" dia. x 9/32"); extends 57/64" behind panel. Series 250 has no collar, extends 1 1/32". Mount in 3/8" hole in panels to 5/32" thick.

Dialco No.	Terminals	Net Each, Lots of						
		1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
508-8738-504	Turret	$1.82	$1.52	$1.38	$1.16	$1.05	$0.94	$0.84
508-7538-504	Cup†	1.82	1.52	1.38	1.16	1.05	.94	.84
508-7438-504	Blade†	1.51	1.26	1.13	.97	.89	.79	.71
508-9038-504	Taper*	2.99	2.55	2.39	2.07	1.92	1.72	1.48
250-8738-14-504	Turret	1.65	1.37	1.25	1.05	.97	.85	.79
250-7538-14-504	Cup†	1.65	1.37	1.25	1.05	.97	.85	.79
250-7438-14-504	Blade†	1.32	1.10	.99	.84	.75	.67	.61
250-9038-14-504	Taper*	2.81	2.40	2.25	1.94	1.85	1.64	1.42
515-0051	Speed Clip	.15	.13	.12	.08	.07	.06	.05
515-0012	Connector	.91	.75	.65	.54	.47	.42	.39

*Amp "53" taper pin receptacle. †Solder type.

DIODE-LITE™ LED LOGIC/STATE FAULT INDICATORS



547 Series 550-0404 555-200X 550.0405 550.0406 555-300X

SERIES 547 FAULT INDICATOR

Compact, versatile unit may be used as a fault indicator for trouble shooting complex printed circuit cards, as logic/state indicator, or indicator light. Binary data display permits stacking so multiple functions can be displayed. Features gallium arsenide phosphide LED; identified polarity; built-in series resistor. Can be driven directly from DTL and TTL logic. Gold plated leads. Size, .094″–.098″ w. x .540″ d. overall x .248″ h. Pin length, .150″.

Dialco No.	Volts	mA	Dialco No.	Volts	mA
547-2001	1.7*	.....	547-2005	10.0	14
547-2002	3.6	20	547-2006	14.0	10
547-2003	5.0	6	547-2007	5.0	3
547-2004	5.0†	16			

Dialco No.	Net Each, Lots of						
	1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
547-2001 Red	$1.95	$1.81	$1.70	$1.57	$1.45	$1.33	$1.20
547-2002 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2003 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2004 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2005 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2006 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2007 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23

SERIES 550 SOLID STATE LED RED, GREEN, YELLOW DIFFUSED LIGHT SOURCE

Ideal for indicator light, panel illumination, logic/state indicator, binary data display. Allows for high density packaging. Polarity identified. Model 550-0x06 designed for installations where a more rigid assembly is required. **V_F:** 1.8 volts typical at 50 mA, 2.3 volts max. **I_F:** 50 mA max. **V_R:** 3 volts max. **BV_R:** 3.0 volts min. at 10 μA, 8.0 volts typical. **Power Dissipation:** 100 mW (derate 1.3 mW/° C above 25° C). **Storage Operating Temp.:** −40° to +100° C. **Solder Temp.:** 250° C at 0.1″ from seating plane for 5 seconds. **Luminous Intensity:** 2.0 mcd at 20 mA. **Wavelength:** Red 650 nM, Green, 560 nM, Yellow 580 nM at peak. **Rise and Fall Time:** 10 ns for 10–90% of light.

Dialco No.	Net Each, Lots of		
	1-99	100-999	1000-2499
550-0204 Green	$1.19	$0.88	$0.80
555-0205 Green	1.19	.88	.80
550-0206 Green	1.19	.88	.80
550-0304 Yellow	1.19	.88	.80
550-0305 Yellow	1.19	.88	.80
550-0306 Yellow	1.19	.88	.80
550-0404 Red	.59	.45	.39
550-0405 Red	.59	.45	.39
550-0406 Red	.59	.45	.39
550-0504 Red*	.89	.73	.62
550-0505 Red*	.89	.73	.62
550-0506 Red*	.89	.73	.62

*Built-in series resistor.

SERIES 555 LOGIC/STATE FAULT INDICATOR

Use as fault indicator for trouble shooting complex circuits, logic/state indicator, indicator light, or binary data display. High intensity red diffused light. Gallium arsenide phosphide LED. Polarity identified. Built-in series resistor. Size, .100″ w. x .240″ d. x .250″ h. Lead length, .281″ min. Lamp, .080″ diameter.

Dialco No.	Volts	mA	Dialco No.	Volts	mA
555-2001 Red	1.7	*	555-3001 Red	1.7	*
555-2002 Red	3.6	20	555-3002 Red	3.6	20
555-2003 Red	5.0	6	555-3003 Red	5.0	6
555-2004 Red	5.0†	16	555-3004 Red	5.0†	16
555-2005 Red	10.0	14	555-3005 Red	10.0	14
555-2006 Red	14.0	10	555-3006 Red	14.0	10
555-2007 Red	5.0	3	555-3007 Red	5.0	3

Dialco No.	Net Each, Lots of						
	1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
555-2001 Red	$1.00	$0.91	$0.83	$0.76	$0.69	$0.63	$0.57
555-2002 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2003 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2004 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2005 Red	1.11	10.1	.92	.84	.76	.69	.62
555-2006 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2007 Red	1.11	1.01	.92	.84	.76	.69	.62
555-3001 Red	1.10	1.00	.91	.84	.76	.69	.63
555-3002 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3003 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3004 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3005 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3006 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3007 Red	1.22	1.11	1.01	.92	.84	.76	.68

*Requires external resistor. Maximum DC forward current, 50 mA. Typical operating current, 20 mA. †For higher brightness, can be operated at 6 V at 20 mA.

SERIES 521 DIODE-LITES™ SOLID STATE LAMPS

521-9165, -9203, -9205 521-9167, 521-9168 521-9180

521-9189, -9206, -9207 521-9185, 521-9186

High luminance light sources offer longer lamp life, lower current at low cost. For applications requiring direct mounting through a panel. IC compatible; vibration and shock resistant; wide viewing angle. Solid state reliability, with life measured in years. Consist of a light emitting diode, completely encapsulated, with clear or diffused lens. Light source for Nos. 521-9167 and 521-9168 is contained in a black case, giving excellent contrast when "On", yet appearing black when "Off". The 521-9165 base has a flat on one side which gives the device an antirotation feature as well as indicating which lead is the cathode. Leads are flexible enough for bending and rigid enough for direct mounting to a PC board. **Forward Voltage:** 1.8 volts typical at 50 mA, 2.3 volts max. **Forward DC Current:** 50 mA max. **Reverse Voltage:** 3 volts max. **Reverse Breakdown Voltage:** 3.0 volts minimum at 10 μA, 8.0 volts typical. **Power Dissipation:** 100 mW (derate 1.3 mW/° C above 25° C). **Storage/Operating Temperature:** −40° to +100° C. **Relative Humidity:** 98% at 65° C. **Solder Temperature:** 250° C at 0.1″ from seating plane for 5 seconds. **Luminous Intensity:** 2.0 mcd at 20 mA, except 521-9167, 521-9168, 1.0 mcd; 521-9189, 1.35 mlumen. **Wavelength:** red, 650 nM; green, 560 nM; yellow, 580 nM. **Spectral Line Width:** 25 nM. **Rise and Fall Time:** 10 ns for 10–90% of light intensity for step change in current. **Angle of Half Intensity:** 35°. **Angle of 0.1 Intensity:** 85°.

Dialco No.	Diffusion	Lens Size, In.		Net Each, Lots of		
		Dia.	Height	1-99	100-999	1000-2499
521-9165	Red	.192	.240	$0.50	$0.37	$0.33
521-9166	Clear	.192	.240	.50	.37	.33
521-9167	Red	.190–.210	.190	.59	.45	.39
521-9168	Clear	.190–.210	.190	.59	.45	.39
521-9180	Red	.185	.190	.50	.37	.33
521-9185	Red*	.120	.100	.45	.25	.17
521-9186	Red	.120	.100	.45	.25	.17
521-9189	Red	.125	.190	.29	.19	.15
521-9190	Clear*	.192	.240	.50	.37	.33
521-9200	Red	.192	.240	.28	.21	.17
521-9202	Green	.192	.240	.99	.75	.55
	Clear*	.192	.240	.99	.75	.55
521-9203	Green	.192	.240	.99	.75	.55
521-9204	Yellow	.192	.240	.99	.75	.55
	Clear*	.192	.240	.99	.75	.55
521-9205	Yellow	.192	.240	.99	.75	.55
521-9206	Green	.120	.190	.99	.75	.55
521-9207	Yellow	.120	.190	.99	.75	.55
521-9215	Red†	.120	.190	.75	.60	.50
521-9216	Red	.120	.190	.29	.19	.15
521-9217	Red	.200	.340	.30	.21	.17
521-9179	Red	.200	.340	.50	.37	.33
521-9183	Red†	.200	.340	.75	.60	.50
521-9184	Red	.200	.340	.75	.60	.50
521-9195	Red	.120	.100	.62	.50	.39
521-9214	Red	.192	.240	.56	.42	.34

*Non-diffused, balance diffused. †Rated 5 V with integral resistor.

SERIES 558 AND 559 DIODE-LITES™

Snap-in mounting design requires no additional hardware and provides quick positive insertion in panels from .031″ through .062″. The black housing enhances the contrast ratio of the high brightness LED. Available with and without integral current-limiting resistors. **Mounting Hole Size:** Series 558, .156″ dia., Series 559, .250″ dia. **Mounting Centers:** Series 558, 0.2″; Series 559, 0.3″. **Terminals:** .020″ sq. pins for wire wrap or solder.

TYPICAL RESISTOR VALUES SERIES 558 AND 559 W/O RESISTOR

DC Volt.	Red		Green/Yellow	
	R_L @ 10 mA	R_L @ 20 mA	R_L @ 10 mA	R_L @ 20 mA
3.6	200Ω	100Ω	150Ω	75Ω
5	330Ω	180Ω	330Ω	150Ω
6	430Ω	220Ω	390Ω	180Ω
10	820Ω	390Ω	820Ω	390Ω
14	1200Ω	620Ω	1200Ω	620Ω
28	2700Ω	1300Ω	2700Ω	1300Ω

Dialco No.	LED Color	Integral Resistor	Net Each, Lots of			
			1-9	10-99	100-999	1000-2499
558-0101-001	Red	No	$0.75	$0.60	$0.40	$0.33
558-0102-001	Red	Yes	1.00	.85	.65	.58
558-0201-001	Green	No	1.10	.95	.75	.65
558-0202-001	Green	Yes	1.40	1.25	.95	.85
558-0301-001	Yellow	No	1.10	.95	.75	.65
558-0302-001	Yellow	Yes	1.40	1.25	.95	.85
559-0101-001	Red	No	.75	.60	.40	.33
559-0101-003*	Red	No	1.13	.98	.84	.71
559-0102-001	Red	Yes	1.00	.85	.65	.58
559-0102-003*	Red	Yes	1.47	1.27	1.09	.92
559-0201-001	Green	No	1.10	.95	.75	.65
559-0201-003	Green	No	1.49	1.29	1.11	.94
559-0202-001	Green	Yes	1.40	1.25	.95	.85
559-0202-003*	Green	Yes	2.02	1.75	1.50	1.27
559-0301-001	Yellow	No	1.10	.95	.75	.65
559-0301-003*	Yellow	No	1.49	1.29	1.11	.94
559-0302-001	Yellow	Yes	1.40	1.25	.95	.85
559-0302-003*	Yellow	Yes	2.02	1.75	1.50	1.27

DIALIGHT Indicator Lights

DIALCO®

95-0408

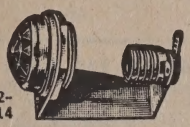
81-0410

32-4001

103-3101-1331

103-3101-1211

125-0408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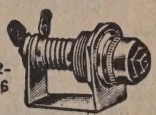

502-8136

NEON SERIES 95-0408, 52-0408, & SERIES 135-0408

Now also available with new High Brightness B2A Neon Glow Lamp. Have Patented Built-in Resistor.

Series 95—Two types available: Series 95-0408 enclosed neon indicator light has 56K-ohm, ½-watt resistor built-in for use with the regular B1A neon lamp on 105–125 volt circuit. Series 95-0463 has built-in 22K-ohm resistor for use with new B2A high brightness neon lamp on 110–125 VAC circuits. Rugged design; resistor fully insulated in molded phenolic. Plastic head gives 180° light spread. Mounting bushing is black nickel plated. Solder terminals. Size: 2⅛" long, 1⅝" O.D.; mounts in 1⅛" hole in panels up to ⅜" thick. UL and CSA Listed. Meets requirements of MIL-L-3661A. **Series 52-0408** same as 95-0408 and **52-0463** same as 95-0463, but with internally fluted stovepipe lens. **Series 135-0408** same as 95-0408 and **135-0463** same as 95-0463, but with cylindrical (screw-in) lens. Shpg. Wt., 3 oz. Less lamp.

Net Each, 1–9 ..... **$1.87**
Net Each, 10–24 **$1.59**; 25–99 ..... **1.50**

WITH 56K-OHM RESISTOR

*	Dialco No.† 95-0408-	52-0408-	135-0408-
R	0931-241	0991-241	1431-241
A	0933-241	0993-241	1433-241
W	0935-241	0995-241	1435-241
C	0937-241	0997-241	1437-241

WITH 22K-OHM RESISTOR

*	Dialco No.† 95-0463-	52-0463-	135-0463-
R	0931-211	0991-211	1431-211
A	0933-211	0993-211	1433-211
W	0935-211	0995-211	1435-211
C	0937-211	0997-211	1437-211

*Lens: R, red; A, amber; W, white; C, clear. †Black nickel finish as listed; for polished chrome finish change 11th digit to 3 (e.g., 95-0408-0931-341).

INCANDESCENT SERIES 81-0410 SERIES 95-0410, 52-0410

Series 81-0410—For use with T-3¼ bulb, miniature bayonet base incandescent, for 2–55 V circuits. Replaceable from front of panel. Aviation type assembly with socket shell encased in molded phenolic. Smooth face lenses in ½" brass lens holder. Black nickel bushing on all assemblies. Also black nickel holder on 81-Series. Solder terminals. Size: 2¼" lg., 1⅝" O.D.; mounts in 1⅛" hole in panels up to ⅜" thick. UL and CSA Listed. Meets MIL-L-3661A requirements.

Net Each, 1–9 ..... **$1.89**
Net Each, 10–24 **$1.64**; 25–99 ..... **1.55**

Series 95-0410 and **52-0410**—Same as 81-0410, but ⅝" plastic stovepipe lens. Series 52-0410 lens is internally fluted. Wt., 3 oz. Less lamp. **For polished chrome finish** change third-from-last digit to 3 (e.g., 81-0410-0111-301). Net Ea., 1–9 .. **$1.60**
Net Each, 10–24 **$1.37**; 25–99 ..... **1.27**

*	Convex No. 81-0410-	Stovepipe No. 95-0410-	Fluted No. 52-0410-
R	0111-201	0971-201	0991-201
G	0112-201	0972-201	0992-201
A	0113-201	0973-201	0993-201
W	0135-201†	0975-201	0995-201

*Lens: R—red, G—green, A—amber, W—white. †Translucent unfrosted lens.

ENCLOSED ASSEMBLIES ONE-INCH SERIES 32-4001

Series for use with S-6 incandescent bulbs with candelabra screw base for 6–125 volt circuits. Lamp replaceable from front of panel. Faceted lens in choice of colors with friction-fit lens holder of polished chrome; white nickel plated mounting bushing. Iridite coated, cadmium plated steel hex nut and split lockwasher. Solder terminals. Size, 2²⁵⁄₃₂" long, 1⅜" O.D.; mounts in 1" hole. UL and CSA Listed. Shpg. Wt., 4 oz. Less lamp.

Dialco Nos. 32-4001-0431-302 (Red), **32-4001-0432-302** (Green), **32-4001-0433-302** (Amber) or **32-4001-0437-302** (Clear)—Same, but with convex back frosted lens. **Dialco Nos. 32-4001-0111-302** (Red), **32-4001-0112-302** (Green), **32-4001-0113-302** (Amber), **32-4001-0117-302** (Clear).

Net Each, 1–9 ..... **$2.20**
Net Each, 10–24 **$2.07**; 25–99 ..... **1.94**

1" OIL-TIGHT SERIES

For Heavy Duty Industrial Applications

Enclosed rugged design gasketed with oilproof gaskets impervious to oil, water and dust. Rugged binding screw terminals. Caps unscrew from face of panel. One-piece, solid brass mounting bushing; solid brass knurled lens holder; chrome finish. Glass lens gives omnidirectional (180°) light spread. High impact phenolic insulation. Size, 1⅞" long, 1⅜" O.D. Mounts in 1" clearance hole. Shpg. Wt., 3 oz., average. Less lamp.

Screw Base Types—Net Ea., 1–9 .. **$4.16**
Net Each, 10–24 **$3.82**; 25–99 ..... **3.58**
Bayonet Base Types—Net, 1–9 ... **4.56**
Net Each, 10–24 **$4.20**; 25–99 ..... **3.93**

FOR 6S6 INCANDESCENT LAMPS
Torpedo Faceted Lens

For Screw Base	*	For Bayonet Base
103-3101-1331-403	R	103-3502-1331-403
103-3101-1332-403	G	103-3502-1332-403
103-3101-1333-403	A	103-3502-1333-403
103-3101-1334-403	B	103-3502-1334-403
103-3101-1335-403	W	103-3502-1335-403
103-3101-1336-403	Y	103-3502-1336-403
103-3101-1337-403	C	103-3502-1337-403
Dome Type Lens (Frosted Back)		
103-3101-1211-403	R	103-3502-1211-403
103-3101-1212-403	G	103-3502-1212-403
103-3101-1213-403	A	103-3502-1213-403
103-3101-1214-403	B	103-3502-1214-403
103-3101-1235-403	W	103-3502-1235-403
103-3101-1216-403	Y	103-3502-1216-403
103-3101-1217-403	C	103-3502-1217-403

*R–Red; G–Green; A–Amber; B–Blue; W–Translucent, unfrosted white; Y–Yellow; C–Clear.

FOR NEON GLOW LAMPS
Dome Type Lens

For use with B7A candelabra screw base lamps. Resistor built into lamp base. Size, 2⁷⁄₃₂" long, 1⅜" O.D. Fits 1" clearance hole. Shpg. Wt., 3 oz. Less lamp.

Dialco No.	Lens Color	Net Ea., Lots 1-9	10-24
103-3114-1231-403	Red	$4.16	$3.82
103-3114-1233-403	Amber	4.16	3.82
103-3114-1236-403	Yellow	4.16	3.82
103-3114-1237-403	Clear	4.16	3.82
103-3114-1217-403	Clear*	4.16	3.82

*Frosted back.

11/16" OIL-TIGHT SERIES

Stovepipe Lenses—Fluted or Plain

With built-in resistor. Size, 2⅝₄" long, 1⁵⁄₁₆" O.D. Mounts in 1¹⁄₆₄" diameter hole. Shipping Weight, 2 oz. Less lamp.

FOR B1A NEON GLOW LAMP

Any model. Net Each, 1–9 ..... **$3.08**
Net Each, 10–24 **$2.84**; 25–99 ..... **2.68**

Fluted Lens	*	Plain Lens
125-0408-1191-443	R	125-0408-1131-443
125-0408-1193-443	A	125-0408-1133-443
125-0408-1196-443	Y	125-0408-1136-443
125-0408-1197-443	C	125-0408-1137-443
.....	CL	125-0408-1117-443

11/16" OIL-TIGHT SERIES (CONT'D) FOR B2A NEON GLOW LAMP

Any model. Net Each, 1–9 ..... **$3.08**
Net Each, 10–24 **$2.84**; 25–99 ..... **2.68**

Fluted Lens	*	Plain Lens
125-0463-1191-413	R	125-0463-1131-413
125-0463-1193-413	A	125-0463-1133-413
125-0463-1195-413	W†	125-0463-1135-413
125-0463-1196-413	Y	125-0463-1136-413
125-0463-1197-413	C	125-0463-1137-413

FOR LOW-VOLTAGE T-3¼ MINIATURE BAYONET BASE LAMP

Any model. Net Each, 1–9 ..... **$2.78**
Net Each, 10–24 **$2.56**; 25–99 ..... **2.41**

Fluted Lens	*	Frosted Lens
125-0410-1191-403	R	125-0410-1111-403
125-0410-1192-403	G	125-0410-1112-403
125-0410-1193-403	A	125-0410-1113-403
125-0410-1194-403	B	125-0410-1114-403
125-0410-1195-403	W	125-0410-1135-403†
125-0410-1196-403	Y	125-0410-1116-403
125-0410-1197-403	C	125-0410-1117-403

*R–Red; G–Green; A–Amber; B–Blue; W–White; Y–Yellow; C–Clear; Cl–Frosted back, clear. †Translucent unfrosted.

OPEN SOCKET ASSEMBLIES SERIES 502-3214 ONE-INCH REMOVABLE JEWEL

Candelabra base, 115 volt pilot light assembly with faceted jewel in highly polished chrome plated brass holder. For standard bulbs. Requires 1" mounting hole. Solder terminals. Easily adjusted to panel. Secured to panel by separate bushings into which the lens holders are a friction fit, permitting removal for lamp replacement. **Dialco Nos. 502-3214-0431-302** (Red), **502-3214-0432-302** (Green) or **502-3214-0433-302** (Amber)—Net Each, 1–9 ..... **$1.80**
Net Each, 10–24 **$1.65**; 25–99 ..... **1.54**

SERIES 502-8136, -8137 HALF-INCH REMOVABLE JEWEL

For operation with low volt, miniature bayonet and miniature screw base, incandescent lamps. Has white nickel finish. Requires 1⅛ in. mounting hole. Faceted lens. Solder terminals. Effective lens diameter ½". All brackets are insulated from the live terminals. Unit secured by separate bushings; caps may be removed easily for access to the lamps. Less bulb.

Any model. Net Each, 1–9 ..... **$1.19**
Net Each, 10–24 ..... **1.06**

Bayonet Base	*	Screw Base
502-8136-2131-102	R	502-8137-2131-102
502-8136-2132-102	G	502-8137-2132-102
502-8136-2133-102	A	502-8137-2133-102

*R–Red; G–Green; A–Amber.

LENSES IN THREADED HOLDERS FOR PANEL MOUNTING

For use with separately mounted lamp sockets. All-purpose smooth jewels in polished chrome-plated brass holders for up to 9⁄₃₂" panels, ¾", ½" and 1½" diameters—requiring 1⅛", 7⁄₁₆" and 9⁄₃₂" holes, respectively for mounting. Shpg. Wt., 2 oz.

Dialco Nos. 514-2512-0111-302 (Red), **514-2512-0112-302** (Green), **514-2512-0113-302** (Amber)—Net Each, 1–9 ..... **$1.20**
Net Each, 10–24 **$1.12**; 25–99 ..... **1.06**

Dialco Nos. 514-1012-0621-102 (Red), **514-1012-0622-102** (Green), **514-1012-0623-102** (Amber)—Net Each, 1–9 ..... **$0.40**
Net Each, 10–24 **$0.38**; 25–99 ..... **.35**

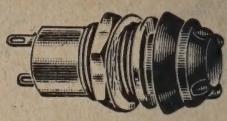
Dialco Nos. 514-0512-0621-102 (Red), **514-0512-0622-102** (Green), **514-0512-0623-102** (Amber)—Net Each, 1–9 ..... **$0.40**
Net Each, 10–24 **$0.38**; 25–99 ..... **.35**

DIALIGHT Indicator Lights

DIALCO®

252-9951

270-1930



271-8430

SUB-SUBMINIATURE SERIES 252-9951

Reliable T-1 filament lamp enclosed in stovepipe, high-impact, translucent plastic lens molded to mounting bushing. Stainless steel housing. Steel, cadmium-plated mounting nut with chromate coating. Moisture and dust proof. High-temperature, Type E wire leads with silver-plated, stranded #26 copper conductor and fluorocarbon insulation. Anti-rotation (locked) construction. Long-life lamp, 60,000 hrs. at 5 volts. Requires only .193" panel mounting hole Conforms to MIL-L-3661B Size, 7/32" dia x 35/64" long (less terminal length).

Dialco Nos. 252-9951-0971 (Red), **252-9951-0972** (Green), **252-9951-0973** (Amber), **252-9951-0974** (Blue), **252-9951-0975** (White), **252-9951-0937** (Clear, transparent). Net Each, 1–9 ..... **$3.66** 10–24 ..... **$3.26**; 25–99 ..... **3.04**

SERIES 270 FOR PLASTIC PLATE EDGE-LIGHTING

Subminiature units for MIL-P-7788 plastic plate panels. Size, 1 7/16" long, 1½" O D Mounts in 15/32" hole **Series 270-1830,** screw-type terminals Shipping Weight, 2 oz Less lamp

Dialco No.	Filter Color	Terminal Type	Net Each, Lots of 1-9	10-24	25-99
270-1930-0111-702	Red	Solder	$1.20	$1.01	$0.91
270-1930-0171-702	Clear	Solder	1.20	1.01	.91
270-1930-3111-702	Red	Solder	1.20	1.01	.91
270-1930-3771-702	Clear	Solder	1.20	1.01	.91

SERIES 270 (CONT'D)

Dialco No.	Filter Color	Terminal Type	Net Each, Lots of 1-9	10-24	25-99
270-1830-0111-702	Red	Screw	$1.41	$1.15	$1.04
270-1830-0171-702	Clear	Screw	1.41	1.15	1.04
270-1830-3111-702	Red*	Screw	1.41	1.15	1.04
270-1830-3771-702	Clear*	Screw	1.41	1.15	1.04

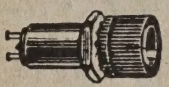
*With light-emitting top.

NEW SUB-MINIATURE LIGHTS FOR TRANSLUCENT PANEL EDGE LIGHTING

Designed to emit light through a red or clear-colored filter. For use with MIL-P-7788 (plastic plate) panels. Insulated brass terminals have elongated slots. Cadmium-plated brass bushing. Cadmium-plated steel internal-tooth lockwasher and hex nut. Anti-rotation notch on face of flange. Opaque, light-seal washer. Mounting hole, 15/32". Max. panel thickness, ¼". Max. projection back of panel, 31/32" O D , 5/8" Meet MIL-L-3661B, MS25010 Rev. D. Less lamp.

Dialco Nos. 271-8430-0111-702 (Red filter, black top), **271-8430-0171-702** (Clear filter, black top), **271-8430-3111-702** (Red filter, red top), **271-8430-3171-702** (Clear filter, red top), **271-8430-0212-702** (Red filter, gray top), **271-8430-0272-702** (Clear filter, gray top).

Net Each, 1–9 .... **$1.87**; 10–24 .... **$1.65**; 25–99 .... **$1.51**



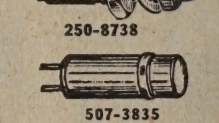
508-7538-504 Lamp Holder

plus—

Dialco Lamp Cartridge

makes—

Complete Dialco DATALITE



250-8738

507-3906

507-3835

249-7841

DIALCO DATALITES®

Ultra-miniature indicator lights for computers, data processing equipment, automation, etc. Mount in 3/8" hole. "Datalites" are made in two basic styles—with Dialco's lamp cartridges, which are replaceable, and with built-in neon lamps which are permanent not replaceable.

SINGLE LAMP HOLDER

Use with Dialco's lamp cartridge, removable from front. Size, 1 13/16" long, ½" O.D. Mounts in 3/8" hole. Two insulated terminals offset for correct polarity when replacing cartridges in DC circuits. Conform to applicable MIL specs. Collar, flange ring, mounting bushing of black anodized aluminum. With mounting hardware, less cartridge.

Dialco No. 508-7538-504—Solder cup terminals.
Dialco No. 508-8738-504—Turret terminals.
Dialco No. 508-7545-504—Solder cup terminals, 5/64" longer to accommodate neon cartridge 507-4537 and high brightness type 507-4538.
Dialco No. 508-8745-504—Same as 508-7545-504, but with turret terminals.
Any Model—Net Each, 1–9 ..... **$1.82**
Net Each, 10–24 ..... **$1.52**; 25–99 ..... **1.38**

NEW PANEL-MOUNTING DATALAMP HOLDERS

Similar to 508 Series single lampholder, less collar. Collar utilized when conditions demand plug-in datalamp cartridge be very securely retained. Black, anodized alum. mtg. bushing, collar and flange nut. Brass, white nickel finish mounting nut. Internal-tooth lockwasher of phosphor bronze with white nickel finish. Phosphor bronze, gold-plated terminals. Choice of turret or solder cup terminals. Max. projection back of panel, 1 1/32". Max. panel thickness, 5/32". Collar and knurled flange nut, 33/64" dia.

Dialco Nos. 250-8738-14-504, 250-8745-14-504—With turret terminals; **Nos. 250-7538-14-504, 250-7545-14-504**—Same, but with solder cup terminals.
Net Each, 1–9 .... **$1.65**; 10–24 .... **$1.37**; 25–99 .... **$1.25**

NEON LAMP CARTRIDGES

For use with 508-8738-504, or 508-7538-504, and 250-7538-14-504, or 250-8738-14-504. Consists of NE-2E neon bulb, 1/25 watt with starting 65 VAC and 90 VDC; mounted in aluminum sleeve, capped with plastic stovepipe lens. Requires ⅓-watt ballast resistor. Size, 1 21/64" long, ⅓" O.D. Lens is transparent. **Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **3**, amber; **5**, white; **6**, yellow; **7**, clear (e.g., 507-3835-0933-600, amber lens). AC/DC models, standard brightness; AC models, high brightness.

Dialco No. 507-3835-0931-600—AC/DC, stovepipe lens.
Dialco No. 507-3835-1531-600—AC/DC, long cylindrical lens.
Dialco No. 507-3836-0931-600—AC, stovepipe lens.
Dialco No. 507-3836-1531-600—AC, long cylindrical lens.
Any Model—Net Each, 1–9 ..... **$1.32**
Net Each, 10–24 ..... **$1.10**; 25–99 ..... **1.00**

NEON CARTRIDGES

High brightness and standard brightness. Similar to Series 507-3835 and 507-3836 cartridges at left, but 1/8" longer. Built-in resistor.

Dialco No.* 507-	Built-In Resistor	Current, Volts	Lens Type	Net Each, Lots of 1-9	10-24	25-99
4537-0931-640	56 K-ohms	105–125 AC/DC	Stovepipe	$1.78	$1.49	$1.37
4538-0931-610	22 K-ohms	110–125 AC	Stovepipe	1.78	1.49	1.37
4537-1531-640	56 K-ohms	105–125 AC/DC	Long Cylinder	1.78	1.49	1.37
4538-1531-610	22 K-ohms	110–125 AC	Long Cylinder	1.78	1.49	1.37

***Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **3**, amber; **5**, white; **6**, yellow; **7**, clear (e.g., 507-3835-0933-600, amber lens).

INCANDESCENT LAMP CARTRIDGES

For use with 508-8738-504, or 508-7538-504, and 250-7538-14-504, or 250-8738-14-504. Uses T-1¾ incandescent bulb mounted in aluminum sleeve and capped with short cylindrical lens. Size, 1 7/64" long, 2 1/64" O.D. Shpg. Wt., 1 oz.

Dialco No.*	Volts	Amps	Hours	Net Each, Lots of 1-9	10-24	25-99
507-3906-1471-600	6	.20	1000	$1.71	$1.45	$1.33
507-3913-1471-600	14	.08	1500	1.80	1.51	1.37
507-3917-1471-600	28	.04	4000	1.65	1.38	1.26
507-3914-1471-600	14	.08	15000	1.92	1.61	1.48
507-3918-1471-600	28	.04	7000	1.95	1.63	1.50

***Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **2**, green; **3**, amber; **4**, blue; **5**, white; **6**, yellow; **7**, clear (e.g., 507-3906-1472-600, green lens).

PERMANENT INDICATOR LIGHTS, NEON

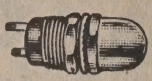
Approximate life, 25,000 hours. With built-in resistors. Size, 1 53/64" long, ½" O.D. **Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **3**, amber; **5**, white; **7**, clear (e.g., 249-7841-0933-574, amber lens).

Dialco No. 249-7841-0931-574—Stovepipe lens, 100 K resistor.
Dialco No. 249-7866-0931-534—As above, but 33 K resistor.
Dialco No. 249-7841-1431-574—Short cylindrical, 100 K resistor.
Dialco No. 249-7866-1431-534—As above, but 33 K resistor.
Any Model—Net Each, 1–9 ..... **$2.21**
Net Each, 10–24 ..... **$1.98**; 25–99 ..... **1.86**

DIALIGHT Indicator Lights

DIALCO®

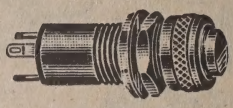
101-5030


101-3830

137-8836

162-8430

177-8430


804-1710

801-1030

812-1030

SUBMINIATURE SERIES

For use with T-1¾ bulbs for 1.35–28 V. Bulb replaceable from front of panel. Military grade phenolic assures permanent isolation from ground. Fully insulated. Black nickel finish. Lockwasher and nut supplied. Size, 1⅜" long, ¾" O.D. Shpg. Wt., 2 oz. Less lamp.

OMNIDIRECTIONAL LENS

Radiate light in all directions. **Series 101-3830** and **140-3830** mount in 15/32" clearance hole, front or back of panel. **Series 101-5030** and **140-5030** mount in 17/32" clearance hole, front of panel. **Series 101-3830** has movable flange, others fixed flange. Solder terminals. Series 101 has stovepipe shaped lens; Series 140, cylindrical lens.

Dialco No. Front Mounting	Lens Color	Dialco No. Front or Back Mtg.	Net Ea., Lots of 1-9	10-24	25-99
101-5030-0971-201	Red	101-3830-0971-201	$1.90	$1.58	$1.41
101-5030-0972-201	Green	101-3830-0972-201	1.90	1.58	1.41
101-5030-0973-201	Amber	101-3830-0973-201	1.90	1.58	1.41
101-5030-0975-201	White	101-3830-0975-201	1.90	1.58	1.41
140-5030-1471-201	Red	140-3830-1471-201	1.90	1.58	1.41
140-5030-1472-201	Green	140-3830-1472-201	1.90	1.58	1.41
140-5030-1473-201	Amber	140-3830-1473-201	1.90	1.58	1.41
140-5030-1475-201	White	140-3830-1475-201	1.90	1.58	1.41

NEON SUBMINIATURE MS25257

Series 137-8836—Front mount in 15/32" hole. Built-in resistor (pat.). Accommodates C7A (NE-2D) lamp. For 105–125 VAC or DC. Size, 1½" x ⅝". Weight, 1½ oz. Less lamp. **Series 137-8864**—Same, but not for MS Drawing. Accommodates C9A (NE-2J) lamp.

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Yellow	137-8836-0933-552	MS25257-2	$3.03	$2.52	$2.28
Red	137-8836-0931-552	MS25257-4	3.03	2.52	2.28
Clear	137-8836-0937-552	MS25257-6	3.03	2.52	2.28
Red	137-8864-0931-512	.....	3.03	2.52	2.28
Amber	137-8864-0933-512	.....	3.03	2.52	2.28
White	137-8864-0935:512	.....	3.03	2.52	2.28
Yellow	137-8864-0936-512	.....	3.03	2.52	2.28
Clear	137-8864-0937-513	.....	3.03	2.52	2.28

INCANDESCENT SUBMINIATURE MS25256

Front mount in 15/32" hole. Use T-1¾ incandescent bulbs. Fully insulated. Size, 1 3/32" x ⅝". Weight, 1½ oz. Less lamp.

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Yellow	162-8430-0933-502	MS25256-2	$1.81	$1.52	$1.38
Green	162-8430-0932-502	MS25256-4	1.81	1.52	1.38
Red	162-8430-0931-502	MS25256-6	1.81	1.52	1.38
Clear	162-8430-0937-502	MS25256-8	1.81	1.52	1.38
White	162-8430-0975-502	MS25256-10	1.81	1.52	1.38
Blue	162-8430-0934-502	MS25256-12	1.81	1.52	1.38

WATER-TIGHT INCANDESCENT LIGHTS

Complete assemblies incandescent indicator lights in translucent colors. Water-tight, oil-tight, dust-tight on face of panel. With retained O-ring seals. Black, anodized aluminum mounting bushing. Internal-tooth lockwasher and mounting nut of cadmium-plated steel. Fully insulated brass terminals with elongated slots. Meet MIL-L-6723 and MIL-L-3661B. Max. projection back of panel, ⅝". Max. panel thickness, 3/16". Mount in 15/32" clearance hole front of panel with fixed flange. Size, O.D., 37/64".
Dialco Nos. 177-8430-0971-503 (Red), **177-8430-0972-503** (Green), **177-8430-0973-503** (Amber), **177-8430-0974-503** (Blue), **177-8430-0975-503** (White, translucent), **177-8430-0976-503** (Light Yellow).
Net Each, 1-9 . . . . **$2.34**; 10-24 . . . . **$1.97**; 25-99 . . . . **$1.81**

PRESS-TO-TEST ASSEMBLIES

Meets requirements of MIL-L-7961B

A slight pressure on the face of the unit "breaks" the normal circuit and "makes" a test circuit. If lamp lights up when pressed in, it is satisfactory. If it fails to light, the lamp is defective. Equipped with three terminals: Two for "normal" circuit, the third for "test" circuit.

SERIES 804/803 (MS25331)

Mount from back in ⅝" clearance hole. Accommodates T-3¼ lamp with miniature bayonet base. Overall size, ⅞" x 2¼". Shpg. Wt., 1½ oz. Less lamp.

WITH MECHANICAL SHUTTER DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	804-1710-0337-504	MS25331-1	$4.21	$3.61	$3.32
Red	804-1710-0331-504	MS25331-2	4.21	3.61	3.32
Green	804-1710-0332-504	MS25331-3	4.21	3.61	3.32
Amber	804-1710-0333-504	MS25331-4	4.21	3.61	3.32
Blue	804-1710-0334-504	.....	4.21	3.61	3.32

WITHOUT DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	803-1710-0337-504	MS25331-5	$3.78	$3.20	$2.88
Red	803-1710-0331-504	MS25331-6	3.78	3.20	2.88
Green	803-1710-0332-504	MS25331-7	3.78	3.20	2.88
Amber	803-1710-0333-504	MS25331-8	3.78	3.20	2.88
Blue	803-1710-0334-504	.....	3.78	3.20	2.88

SERIES 801/800 (MS25041)

Similar to above, but mounts in 15/32" clearance hole, accommodates T-1¾ lamp with midget flange base, ⅝" x 1⅜". Less lamp.

WITH MECHANICAL SHUTTER DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	801-1030-0337-504	MS25041-1	$3.50	$3.04	$2.83
Red	801-1030-0331-504	MS25041-2	3.50	3.04	2.83
Green	801-1030-0332-504	MS25041-3	3.50	3.04	2.83
Amber	801-1030-0333-504	MS25041-4	3.50	3.04	2.83
Blue	801-1030-0334-504	MS25041-10	3.50	3.04	2.83

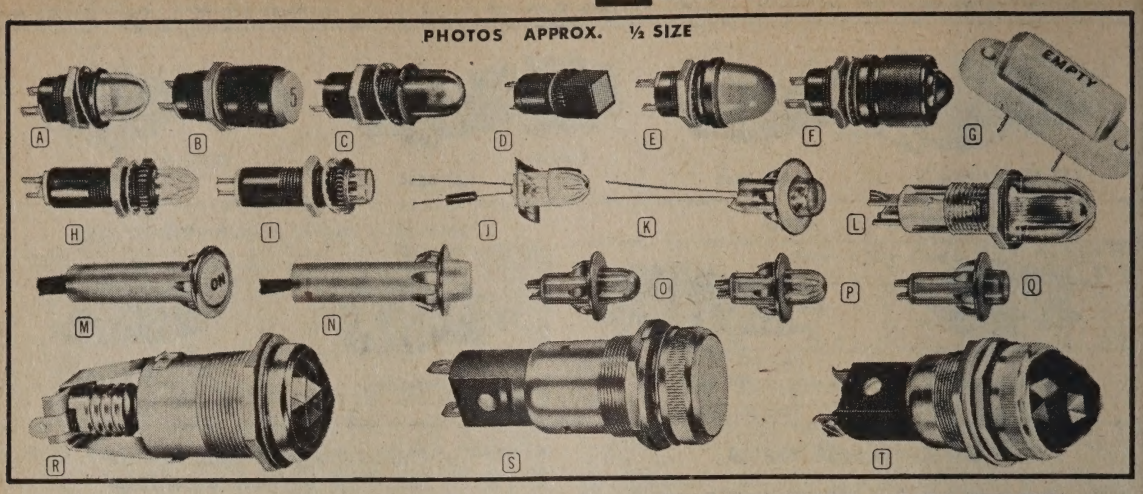
WITHOUT DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	800-1030-0337-504	MS25041-5	$3.01	$2.57	$2.38
Red	800-1030-0331-504	MS25041-6	3.01	2.57	2.38
Green	800-1030-0332-504	MS25041-7	3.01	2.57	2.38
Amber	800-1030-0333-504	MS25041-8	3.01	2.57	2.38
Blue	800-1030-0334-504	MS25041-11	3.01	2.57	2.38

SERIES 812

Same as above, but with stovepipe lens.

Lens Color	Dialco No.	Net Each, Lots of 1-9	10-24	25-99
White	812-1030-0975-506	$3.23	$2.75	$2.52
Red	812-1030-0971-506	3.23	2.75	2.52
Green	812-1030-0972-506	3.23	2.75	2.52
Amber	812-1030-0973-506	3.23	2.75	2.52



"MF" SERIES INDICATOR LIGHTS
MIDGET FLANGE BASE UNITS

Incandescent except for neon -703. Front mounted in 15/32" hole; aluminum body. Both lugs insulated from mounting. Threaded shank lens. Commercial units, clear finish; MIL, black anodized: †LH73/1-LC12▪N2, ‡LH73/1-LC11▪B2, §LH74/1-LC13▪N2 respectively. "▪" represents one of letters used for color. When ordering Drake components, specify color.

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
5131-038-303†	A	7/16"	29/64"	3/4"	$1.62	$1.51	$1.36
5132-038-544‡	B	15/32"	35/64"	3/4"	2.93	2.73	2.46
5133-048-703§*	C	7/16"	1 7/32"	63/64"	2.44	2.27	2.04

*Built-in 62K-ohm resistor. Max. panel th., 15/32"; others, 9/32".

"MF" INDICATOR LIGHTS WITH SQUARE LENSES

Attractive lenses have opaque sides for min. side lighting. Max. panel thickness, 1/8"; min. mtg. centers, 5/16". Mounts 3/8" dia. hole.

5155-036-909	D	3/8" sq.	13/32"	23/32"	$1.91	$1.78	$1.60

"MF" OIL-TITE/WATER-TITE UNITS

Recessed rubber "O" rings will withstand up to 25 p.s.i. pressure. Type 5150 has salt shaker dimmer in lens assembly. Maximum panel thickness, 3/16". Per MIL drawing: #D5-15-3217; ▪SM-B-450166; ▪SM-C-415155; ▪ONO20148.

5139-038-404#	E	37/64"	15/32"	25/32"	$2.32	$2.17	$1.94
5150-038-101▪	F	15/32"	21/32"	25/32"	4.17	3.89	3.49

NEON INDICATOR LIGHTS—115 VOLTS
"FLUSHLITE"—UL AND CSA APPROVED

"One-of a kind". Built in neon lamp and 25K ohm resistor. To be flush with face of panel, mount from rear in panel, up to 1 1/32" thick, on 9/16" or 1 7/8" centers; or, may be mounted on panel top.

Drake Number	Fig.	Lens Size	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
110-025	G	13/32" x 1 1/4"	1 1/32" or 9/16"	1 7/32" or 5/16"	$0.73	$0.68	$0.61

"MINEON"

Similar to "Econoglo"; mounted in black-anodized aluminum body with two turret or solder (*) lugs (specify on order). Mount from rear of panel, up to 3/8" thick, in 3/8" dia. hole on 5/8" centers. Hi-Brite, built-in neon lamp with 22K-ohm resistor; 115 VAC.

HR118-323*	H	1 1/32"	1 5/32"	1 3/16"	$1.64	$1.53	$1.37
HR118T-323	....	1 1/32"	1 5/32"	1 3/16"	1.85	1.72	1.55
HR118T-603	I	1 1/32"	9/32"	1 3/16"	1.85	1.72	1.55

"POSTLITE"

Extremely decorative. Built-in series resistor, 25K ohms, and neon lamp for 110–125 VAC. Mount from front of panel, up to 5/16" thick, in 1/2" dia. hole on 7/8" centers. Hi-Brite lamp.

105-025	L	5/8" sq.	3/4"	1 9/16"	$1.18	$1.10	$0.98

"GLO-LITES"

One-piece nylon body and lens with built-in Hi-Brite neon lamp. With two lead terminations, 22 ga. plastic-insulated wire. Mount from front of panel, up to .080" thick, in 1/2" dia. hole on 1 1/16" centers. Built-in resistor: 25K for 115 V; 100K for 250 V (*).

6073-001-544	M	27/64"	1/8"	1 15/32"	$0.93	$0.87	$0.78
6073-001-634	N	27/64"	5/16"	1 9/32"	.75	.70	.63
6075-001-544*	M	27/64"	1/8"	1 15/32"	.93	.87	.78
6075-001-634*	N	27/64"	5/16"	1 9/32"	.75	.70	.63

★PRICES LESS LAMPS UNLESS BUILT-IN.

WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.

Lenses 603 and 604 may be imprinted; change 0 (2nd digit) to 4 (e.g., 543). Prices on Request.

SPECIFY COLOR ON ORDER: Incandescent and Neon—Red, Yellow (Amber), White, Colorless. **Incand. Only**—Green, Blue.

NEON INDICATOR LIGHTS (CONT'D)
"ECONOGLO"—WIRE LEADS

Mount from front of panel. For type 116, mount in 5/16" hole on panel up to 3/16" thick (fastened with Tinnerman nut). For type 117, mount in 1/2" hole on panel up to 1/16" thick (chrome snap-in). Lens shapes (last 3 digits) interchangeable on types 116 and 117. Termination; two-wire leads. Built-in 22K-ohm resistor (*); others require external resistors, not supplied. Built-in neon lamp. Low cost 115 VAC indicator lights.

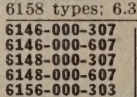
Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
116-603	....	1 1/32"	3/8"	1 5/32"	$0.35	$0.33	$0.29
HR116-323*	J	1 1/32"	3/16"	1 1/16"	.43	.40	.36
117-603	K	1 1/32"	1/4"	5/8"	.46	.42	.38
HR117-323*	....	1 1/32"	7/16"	1 3/32"	.54	.50	.45

NEW "ECONOGLO"—WITH LUGS
TINNERMAN NUT OR PLUG BUTTON MOUNTING

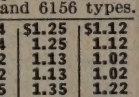
Mount from front of panel; 6140 types in 5/16" hole, panels to 3/16" thick, with Tinnerman nut; 6150 types in 1/2" hole on panel to 1/16" th., snap-in chrome plug button. Lens shapes (last 3 digits) interchangeable on 6140, 6150 types. Two lug terminals. Built-in incandescent 28 V, low cost lamp rated .04 amp on 6148 and 6158 types; 6.3 V lamp rated 0.2 amp on 6146 and 6156 types.

6146-000-307	....	1 1/32"	3/8"	45/64"	$1.34	$1.25	$1.12
6146-000-607	....	1 1/32"	3/16"	55/64"	1.34	1.25	1.12
6148-000-307	....	1 1/32"	3/8"	45/64"	1.22	1.13	1.02
6148-000-607	....	1 1/32"	3/16"	55/64"	1.22	1.13	1.02
6156-000-303	O	1 1/32"	7/16"	41/64"	1.45	1.35	1.22
6156-000-323	P	1 1/32"	7/16"	41/64"	1.45	1.35	1.22
6156-000-607	Q	1 1/32"	1/4"	51/64"	1.45	1.35	1.22
6158-000-307	O	1 1/32"	7/16"	41/64"	1.34	1.24	1.12
6158-000-607	Q	1 1/32"	1/4"	51/64"	1.34	1.24	1.12

"TINYLITE" SERIES INDICATOR LIGHTS



MIDGET SCREW BASE
G-2 INCANDESCENT LAMPS
7 TO 28 VOLTS



Lamps replaceable from front. Mount from front of panel, up to 9/32" thick, in 7/16" dia. hole on 19/32" centers. Lamps built-in; 7 V in 5126-022; 28 V in 5128-022.

5126-022-204	U	7/16"	21/64"	1 3/16"	$1.27	$1.18	$1.06
5126-022-604▲	....	3/8"	21/64"	1 3/16"	1.27	1.18	1.06
5126-022-644	V	3/8"	21/64"	1 3/16"	1.46	1.36	1.22
5128-022-204	U	7/16"	21/64"	2 9/32"	1.61	1.50	1.35
5128-022-604▲	....	3/8"	21/64"	2 9/32"	1.61	1.50	1.35
5128-022-644	V	3/8"	21/64"	2 9/32"	1.80	1.68	1.51

▲Same as 644 type, but unprinted.

1" LENS INDICATOR LIGHTS
CANDELABRA SCREW S-6—115 VOLTS
MONEY-SAVER—UL AND CSA APPROVED

Polished chrome lens holder. Lamps replaceable from front or rear. Mount from front of panel, up to 1/2" thick, in 1" dia. hole on 1 3/8" centers. Slip-fit bezel (*). (Old No. 75-110.)

5756-302-116*	R	1"	7/16"	2 1/4"	$1.61	$1.50	$1.34

STANDARD—UL AND CSA APPROVED

Easy front replacement of lamps, with "J" slotted lens.

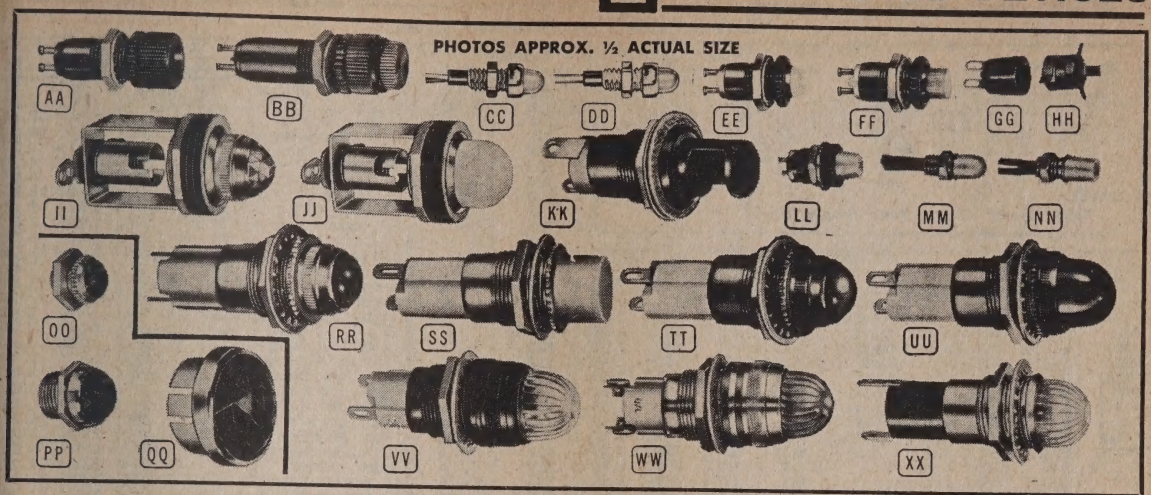
5766-522-506	S	1"	7/16"	2 5/8"	$2.35	$2.19	$1.97

"TITELITE"

Neoprene gaskets seal out oil, water, dust and dirt.

5796-523-416	T	1"	1 3/16"	1 27/32"	$3.69	$3.44	$3.09

Same as B1479L-IBE-410.



MIDGET BI-PIN CARTRIDGE
120 VOLTS INCANDESCENT INDICATOR LIGHTS

Relamped from front. Rear mounted in 3/8" dia. "D" hole. Black anodized body and lens holder. Two turret lugs. Translucent (*) or transparent refracting lenses. Maximum panel thickness, 5/16".

Drake Number	Fig.	Lens Dia.	Projection		Net Each, Lots of*		
			Front	Rear	1-9	10-24	25-99
5300-428-507*	BB	1 3/32"	33/64"	1 5/32"	$2.17	$2.02	$1.81
5300-428-596	BB	1 3/32"	33/64"	1 5/32"	2.17	2.02	1.81

CARTRIDGE LAMPHOLDER

Lampholder has lamp cartridge replaceable from front. Mount from rear of panel, up to 1 1/64" thick, in 3/8" dia. hole on 2 1/32" centers. Two tinned turret lugs. No resistor.

4428-001	AA	.....	3/8"	5/64"	$1.31	$1.22	$1.10

LED "SOLID STATE ASTROLITES"

Mount to 3/16" th., on 1 1/32" ctrs., in .191" dia. "D" hole. Two 6" lead wires. 2.1 VDC: red/clear (Glows red when lit). 2.6 VDC: green/yellow. Specify LED color.

6039-004-304	CC	17/64"	17/64"	1 3/32"	$1.87	$1.74	$1.56
6039-005-304	DD	17/64"	17/64"	1 3/32"	1.58	1.47	1.32

LED "INDICATOR LIGHTS"

Mount to 5/32" th., on 9/16" ctrs., in 3/8" dia. hole. 180° viewing angle. Blk. anodized alum. housing; turret lugs. 2.1 VDC: red/clear. 2.6 VDC: green/yellow. Clear, green, red, white or yellow lenses. Specify both LED and lens color.

6200-102-393	EE	9/32"	1/4"	2 3/32"	$2.76	$2.58	$2.31
6200-102-693	FF	9/32"	1/4"	2 3/32"	2.76	2.58	2.31
6200-105-393	EE	9/32"	1/4"	2 3/32"	4.05	3.77	3.39
6200-105-693	FF	9/32"	1/4"	2 3/32"	4.05	3.77	3.39

CONNECTORS AND FASTENERS

Drake No. 300-058 Connector (Fig. GG)—Used with 763 fastener to mount "Bi-Pin Cartridge Lamps" where conventional method is impractical; or, to save money. Net Each, Lots 1–9.....**34c** Lots 10–24.....**31c** Lots 25–99.....**28c**

Drake No. 763 Fastener (Fig. HH)—Net Each, Lots 1–9 .....**8c** Lots 10–24.....**7c** Lots 25–99.....**7c**

"MONEY-SAVER" INDICATOR LIGHTS
MINIATURE BAYONET BASE T-3 1/4—6 TO 28 VOLTS

Nickel-plated lens holder. Lamps replaceable from front. Mount from front of panel, up to 1/4" thick, in 1 1/16" dia. hole on 1" centers. Rated 2 watts.

50-113	II	1/4"	1 7/32"	1 9/32"	$0.72	$0.67	$0.60
51-304	JJ	5/8"	1/2"	1 1/32"	.72	.67	.60

INSTRUMENT LIGHT
MINIATURE BAYONET BASE T-3 1/4—6 TO 28 VOLTS

Threaded hood. Lamps replaceable from front. Mount from front of panel, to 1 3/32" th., in 1 1/16" dia. hole on 3 1/32" ctrs.; 2 solder lugs.

168E	KK	.....	1 1/16"	1 3/8"	$2.15	$2.00	$1.80

"GEMLITE"

Replaceable, long-life, sub-midget incandescent lamp T-1, 5 V. Front mounted in 5/16" hole. Brass body; two lugs insulated from ground. Meets MIL applications. Max. panel thickness, 7/32".

5160-458-604	....	1/4"	1/4"	1 5/32"	$2.57	$2.39	$2.15
5160-458-644	LL	1/4"	1/4"	1 5/32"	2.69	2.51	2.25

"ASTROLITE"

Built-in T-1 incandescent lamp with 60,000 hours life, 5 V. Mounts in .191" dia. "D" hole. Brass nickel-plated body. Two Teflon® insulated, 6" leads. Translucent, butyrate lens per MS25446. Maximum panel thickness, 3/16". ®Registered DuPont trademark.

6026-001-704	MM	7/32"	9/32"	17/64"	$3.53	$3.29	$2.96
6026-001-844	NN	7/32"	17/64"	17/64"	3.78	3.52	3.17

"DELUXE MOLDED" INDICATOR LIGHTS
MINIATURE BAYONET BASE T-3 1/4—6 TO 28 VOLTS
NEON B-2A—115 & 250 V—UL & CSA APPROVED

Polished chrome finish. Assured dependability; fine appearance. Feature E-Z-Tite flange for quick assembly with Drake No. 32 wrench. Lamp replaceable from front. Mount from front of panel, up to 1 3/32" thick, in 1 1/16" dia. hole on 3 1/32" centers. Neon lamps have built-in series resistor. Two solder lugs.

Drake Number	Fig.	Lens Dia.	Projection		Resis., Ohms	Net Each, Lots*		
			Front	Rear		1-9	10-24	25-99
5200-222-105‡	RR	1/2"	1 7/32"	1 5/8"	.....	$1.83	$1.70	$1.53
5200-222-604	SS	5/8"	1/2"	1 5/8"	.....	1.46	1.36	1.22
5201-228-105*	TT	1/2"	1 7/32"	1 5/8"	.....	2.13	1.98	1.78
5201-228-305*	UU	5/8"	1 1/16"	1 5/8"	.....	2.67	2.48	2.23
5200-232-623	....	5/8"	1/2"	1 5/8"	22K	1.73	1.61	1.45
5200-242-603	SS	5/8"	1/2"	1 5/8"	100K	1.73	1.61	1.45
5202-222-305‡	....	5/8"	1 1/16"	1 7/16"	.....	2.31	2.15	1.93

MAXIMUM VISIBILITY SERIES

Female thread in lens holder permits neon lamp to project into macrodome lens for maximum visibility. UL and CSA Approved.

5204-238-326*	VV	5/8"	2 7/32"	1 9/32"	27K	$2.78	$2.59	$2.33

*MIL unit (black anodized) 5201-228-101 (LH 76/3-LC14†D1), 5201-228-301 (LH76/3-LC15†D1), or 5204-238-320 (LH77/2-LC20†N1). "†" represents one of letters used for color. Ordering Drake components, specify color.

"TITELITE" SERIES

Neoprene gasket seals out oil, water and dust. Front or rear panel mount.

5204-223-326WP‡	WW	5/8"	2 9/32"	1 7/32"	.....	$2.94	$2.74	$2.46

STANDARD SERIES INDICATOR LIGHTS
MINIATURE BAYONET T-3 1/4—6 TO 28 VOLTS
NEON B-2A—115 & 250 V—UL & CSA APPROVED

Nickel-plated lens holder and flange. Replace lamps from front. Front-mount in 1 1/16" hole on 3 1/32" centers in panel up to 1 3/32" thick. Two solder lugs.

5100-822-110‡	....	1/2"	1 7/32"	1 21/32"	.....	$1.17	$1.09	$0.98
5100-822-304	....	5/8"	1/2"	1 21/32"	.....	.86	.81	.72
5100-832-323	XX	5/8"	1/2"	1 23/32"	25K	1.00	.93	.83
5100-842-323	XX	5/8"	1/2"	1 23/32"	100K	1.00	.93	.83

‡These Drake units can use 120 V min. bay. incandescent lamp; 3 watts, T-2 bulb, 1500-ft. candles, life 3000 hours (twice cand. screw). Lamp prices on request.

DRAKE LENSES

The last three digits of most Drake numbers identify lens shapes and other variations. Below are three popular lenses.

Drake Number	Fig.	Lens Dia.	Shank			Net Each, Lots*		
			O.D.	I.D.	Lgth.	1-9	10-24	25-99
14-15-113	OO	5/16"	5/16"-32 thd.	15/64"	1/4"	$0.23	$0.22	$0.19
16-17-113	PP	1/2"	7/16"-27 thd.	1 1/32"	3/8"	.27	.25	.23
75A-110	QQ	1"	.887/.889	53/64"	5/16"	.88	.82	.73

SPECIFY COLOR ON ORDER: Incandescent and Neon—Red, Yellow (Amber), White or Colorless. **Incandescent Only**—Green or Blue.

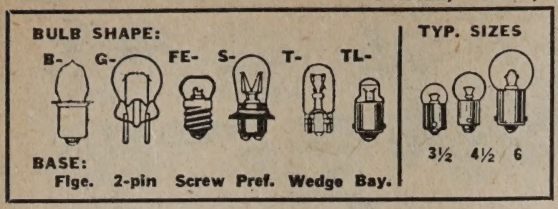
Lenses 503, 603 and 604 may be imprinted; change 0 (2nd digit) to 4 (e.g., 543). Prices on Request.

★PRICES LESS LAMPS UNLESS BUILT-IN.

WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.

General Electric Miniature Lamps

PANEL, PILOT, FLASHLIGHT LAMPS



Lamp No.	Bulb	Base*	Design Volts	Design Amps	Net Price* Each	Net Price* Box10
PR2	B-3½	S.C. min. flanged	2.38	.50	$0.36	$ 2.13
PR3	B-3½	S.C. min. flanged	3.57	.50	.37	2.21
PR4	B-3½	S.C. min. flanged	2.33	.27	.37	2.21
PR6	B-3½	S.C. min. flanged	2.47	.30	.37	2.21
PR7	B-3½	S.C. min. flanged	3.7	.30	.43	2.56
PR12	B-3½	S.C. min. flanged	5.95	.50	.37	2.21
PR13	B-3½	S.C. min. flanged	4.75	.50	.37	2.21
PR15	B-3½	S.C. min. flanged	4.82	.50	.42	2.52
PR16	B-3½	S.C. min. flanged	12.5	.25	.41	2.47
PR18	B-3½	S.C. min. flanged	7.2	.55	.46	2.78
PR20	B-3½	S.C. min. flanged	8.63	.50	.56	3.34
6	S-8	D.C. bayonet	6.4	3.00	.96	5.75
10	G-3½	Min. two-pin	2.5	.50	.64	3.81
12	G-3½	Min. two-pin	6.3	.15	.52	3.11
13	G-3½	Min. screw	3.7	.30	.29	1.75
14	G-3½	Min. screw	2.47	.30	.29	1.75
15	G-4½	Min. two-pin	7.0	.40	1.04	6.24
19	G-3½	Min. two-pin	14.4	.10	.72	4.34
27	G-4½	Min. screw	4.9	.30	.35	2.09
31	G-4½	Min. screw	6.15	.30	.44	2.66
35	G-5½	Min. screw	2.5	.80	.75	4.47
37	T-1¾	Subminiature wedge	14	.09	.51	3.03
39	T-3¼	Min. bayonet	6.3	.36	.79	4.76
40	T-3¼	Min. screw	6.3	.15	.24	1.43
41	T-3¼	Min. screw	2.5	.50	.47	2.79
42	T-3¼	Min. screw	3.2	.35	.61	3.63
43	T-3¼	Min. bayonet	2.5	.50	.47	2.79
44	T-3¼	Min. bayonet	6.3	.25	.25	1.51
45	T-3¼	Min. bayonet	3.2	.35	.40	2.37
46	T-3¼	Min. screw	6.3	.25	.25	1.48
47	T-3¼	Min. bayonet	6.3	.15	.25	1.51
48	T-3¼	Min. screw	2.0	.06	.47	2.79
49	T-3¼	Min. bayonet	2.0	.06	.39	2.34
50	G-3½	Min. screw	7.5	.22	.28	1.71
51	G-3½	Min. bayonet	7.5	.22	.24	1.45
52	G-3½	Min. screw	14.4	.10	.60	3.62
53	G-3½	Min. bayonet	14.4	.12	.27	1.63
53R†	G-3½	Min. bayonet	14.4	.12	.48	2.89
55	G-4½	Min. bayonet	7.0	.41	.27	1.64
57	G-4½	Min. bayonet	14.0	.24	.28	1.69
63	G-6	S.C. bayonet	7.0	.63	.36	2.16
63K	G-6	Candelabra screw	7.0	.63	1.49	8.96
64	G-6	D.C. bayonet	7.0	.63	.47	2.79
67	G-6	S.C. bayonet	13.5	.59	.34	2.03
67K	G-6	Candelabra screw	13.5	.41	1.26	7.58
68	G-6	D.C. bayonet	13.5	.59	.52	3.10
72	G-6	D.C. bayonet	22	.18	.78	4.67
73	T-1¾	Subminiature wedge	14	.08	.51	3.03
74	T-1¾	Subminiature wedge	14	.10	.51	3.03
81	G-6	S.C. bayonet	6.5	1.02	.41	2.45
82	G-6	D.C. bayonet	6.5	1.02	.41	2.45
84	T-1¾	Subminiature wedge	6.3	.04	.61	3.68
85	T-1¾	Subminiature wedge	28	.04	.61	3.68
86	T-1¾	Subminiature wedge	6.3	.20	.61	3.68
87	S-8	S.C. bayonet	6.8	1.91	.64	3.86
88	S-8	D.C. bayonet	6.8	1.91	.64	3.84
89	G-6	S.C. bayonet	13.0	.58	.36	2.18
89K	G-6	Candelabra screw	13.0	.53	1.45	8.70
90	G-6	D.C. bayonet	13.0	.58	.38	2.27
93	S-8	S.C. bayonet	12.8	1.04	.54	3.24
94	S-8	D.C. bayonet	12.8	1.04	.61	3.65
97	G-6	S.C. bayonet	13.5	.69	.42	2.55
112	TL-3	Min. screw	1.2	.22	.26	1.59
123	G-3½	Min. screw	1.25	.30	.31	1.85
130	G-3½	Min. bayonet	6.3	.15	.37	2.24
131	G-3½	Min. screw	1.3	.10	.34	2.03
136	G-4½	Min. screw	1.25	.60	.41	2.43
153	G-6	Min. screw	5.8	1.10	4.03	24.20
157	G-6	Min. screw	5.8	1.10	2.38	14.26
158	T-3¼	Wedge	14	.24	.34	2.03
159	T-3¼	Wedge	6.3	.15	.46	2.74
161	T-3¼	Wedge	14	.19	.35	2.09
168	T-3¼	Wedge	14	.35	.36	2.18
192	T-3¼	Wedge	13	.33	.36	2.18
194	T-3¼	Wedge	14	.27	.34	2.06
209	B-6	S.C. bayonet	6.5	1.78	.76	4.55
210	B-6	D.C. bayonet	6.5	1.78	.69	4.15
211-2	T-3	Min. cap (round)	12.8	.97	.59	3.57
212-2	T3	Min. cap (round)	13.5	.74	.68	4.08
214-2	T-3	Min. cap (round)	13.5	.50	.59	3.57
222	TL-3	Min. screw	2.25	.25	.38	2.28
223	FE-3¼	Min. screw	2.25	.25	.47	2.84
224	TL-2¾	Special 1½-turn thd.	2.15	.22	.38	2.28
233	G-3½	Min. screw	2.33	.27	.39	2.35
238	T-3¼	Min. bayonet	6.3	.50	.97	5.82
239	T-3¼	Min. bayonet	6.3	.36	.55	3.28
240	T-3¼	Min. bayonet	6.3	.36	.49	2.95
245	G-3½	Min. screw	2.46	.50	.45	2.68
253	TL-1¾	Midget grooved	2.5	.35	4.86	29.14
253X	TL-1¾	Midget grooved	2.5	.35	5.92	35.51
256	T-3¼	Min. bayonet, flasher	14	.27	.70	4.21
257	G-4½	Min. bayonet, flasher	14.0	.27	.58	3.45
258	G-4½	Min. screw, flasher	14.0	.27	$ .91	$ 5.44
259	T-3¼	Wedge	6.3	.25	.36	2.18
261	TL-1¾	Midget grooved	2.5	.35	9.54	57.24
268	T-1¾	S.C. midget flanged	2.5	.35	3.14	18.86
293	G-4½	Min. bayonet	14	.33	.35	2.11
303	G-6	S.C. bayonet	28	.30	.71	4.28
304	G-6	D.C. bayonet	28	.30	.87	5.23
306	S-8	D.C. bayonet	28.0	.51	1.80	10.80
307	S-8	S.C. bayonet	28.0	.67	1.07	6.43
308	S-8	D.C. bayonet	28.0	.67	1.26	7.56
311	S-11	S.C. bayonet	28	1.29	1.56	9.34
312	S-11	D.C. bayonet	28	1.29	3.28	19.68
313	T-3¼	Min. bayonet	28	.17	.58	3.47
323	T-1¾	Special thd.	3	.19	2.60	15.59
325	T-1¾	Special thd.	3	.19	2.92	17.50
327	T-1¾	S.C. midget flanged	28	.04	.98	5.88
327R†	T-1¾	S.C. midget flanged	28	.04	1.54	9.24
328	T-1¾	S.C. midget flanged	6	.20	.76	4.56
330	T-1¾	S.C. midget flanged	14	.08	1.31	7.87
331	T-1¾	S.C. midget flanged	1.35	.06	1.60	9.62
334	T-1¾	Midget grooved	28	.04	1.47	8.81
335	T-1¾	Midget screw	28	.04	2.51	15.03
336	T-1¾	Midget grooved	14	.08	2.38	14.27
337	T-1¾	Midget grooved	6	.20	2.82	16.95
338	T-1¾	S.C. midget flanged	2.7	.06	1.43	8.56
342	T-1¾	Midget screw	6	.04	2.88	17.28
344	T-1¾	S.C. midget flanged	10	.014	2.25	13.47
345	T-1¾	S.C. midget flanged	6	.04	2.48	14.89
346	T-1¾	Midget grooved	18	.04	2.07	12.40
349	T-1¾	S.C. midget flanged	6.3	.20	1.77	10.61
356	G-3½	Min. bayonet	28	.17	1.07	6.43
363	G-3½	Min. bayonet	14.0	.20	.41	2.47
370	T-1¾	S.C. midget flanged	18	.04	2.48	14.89
378	T-1¾	Midget screw	6.3	.20	2.93	17.58
380	T-1¾	S.C. midget flanged	6.3	.04	3.46	20.77
381	T-1¾	S.C. midget flanged	6.3	.20	1.84	11.06
382	T-1¾	S.C. midget flanged	14	.08	1.95	11.69
387	T-1¾	S.C. midget flanged	28	.04	.99	5.94
400	T-3¼	Wedge	28	.10	.85	5.10
401	G-4½	Min. screw, flasher	1.25	.25	.65	3.91
405	G-4½	Min. screw, flasher	6.5	.50	.67	4.00
406	G-4½	Min. screw, flasher	2.6	.30	.45	2.71
407	G-4½	Min. screw, flasher	4.9	.30	.44	2.63
425	G-4½	Min. screw	5.0	.50	.38	2.27
428	G-4½	Min. screw	12.5	.25	.45	2.71
430	G-4½	Min. screw	14.0	.25	.59	3.52
431	G-4½	Min. bayonet	14.0	.25	.54	3.24
432	G-4½	Min. screw	18.0	.25	.52	3.15
433	G-4½	Min. bayonet	18	.25	.55	3.28
455	G-4½	Min. bayonet, flasher	6.5	.50	.78	4.67
464	T-3¼	Wedge	28	.17	.78	4.67
502	G-4½	Min. screw	5.1	.15	.31	1.85
509K	G-6	Candelabra screw	24	.18	.60	3.60
557	T-3¼	Wedge, flasher	14	.42	.49	2.94
558	T-3¼	Wedge	13	.34	.44	2.63
561	T-3	Flat clip	12.8	.97	.61	3.63
562	T-3	Flat clip	13.5	.74	.61	3.63
563	T-3	Flat clip	13.5	.50	.61	3.63
605	G-4½	Min. screw	6.15	.50	.43	2.56
623	G-6	S.C. bayonet	28	.37	1.20	7.19
656	T-3¼	Wedge	28	.06	.85	5.10
657	T-3¼	Wedge	28	.08	.85	5.10
658	T-3¼	Wedge	14	.08	.85	5.10
680	T-1	Wire terminal	5	.06	3.16	18.98
682	T-1	Sub-midget flanged	5	.06	3.82	22.93
683	T-1	Wire terminal	5	.06	3.16	18.98
685	T-1	Sub-midget flanged	5	.06	3.82	22.93
715	T-1	Wire terminal	5	.115	3.16	18.98
718	T-1	Sub-midget flanged	5	.115	3.82	22.93
755	T-3¼	Min. bayonet	6.3	.15	.58	3.47
756	T-3¼	Min. bayonet	14	.08	.77	4.64
757	T-3¼	Min. bayonet	28	.08	.85	5.10
809M	G-8	Min. screw	70	8 W	3.53	21.20
844	G-9	D.C. bayonet	28	.68	12.62	75.69
872	T-4½	Min. bayonet	8.0	.90	11.05	66.32
904	T-5	Wedge	13.5	.69	.38	2.27
906	T-5	Wedge	13.0	.66	.38	2.27
912	T-5	Wedge	12.8	1.0	.53	3.20
958	G-16½	D.C. bayonet	5.5	2.0	8.58	51.46
965	T-4½	Min. screw	9.84	.50	.54	3.23
1003	B-6	S.C. bayonet	12.8	.94	.53	3.20
1004	B-6	D.C. bayonet	12.8	.94	.53	3.20
1019	G-16½	S.C. bayonet	12.8	4.75	4.27	25.64
1021	RP-11	S.C. prefocus	4.5	1.25	2.73	16.35
1034	S-8	D.C. indexing (2 pos. taillight)	12.8 14.0	1.80 .59	.60	3.57
1034A▲	S-8	D.C. indexing (front park & turn signal)	12.8 14.0	1.80 .59	.94	5.64
1035	S-8	D.C. index	12.8 14.0	1.44 .59	.68	4.10
1056	RP-11	D.C. bayonet	32	1.15	3.37	20.20
1073	S-8	S.C. bayonet	12.8	1.80	.53	3.20
1076	S-8	D.C. bayonet	12.8	1.80	.82	4.93
1129	S-8	S.C. bayonet	6.4	2.63	0.56	3.39
1130	S-8	D.C. bayonet	6.4	2.63	.73	4.41
1133	RP-11	S.C. bayonet	6.2	3.91	1.00	6.03
1134	RP-11	D.C. bayonet	6.2	3.91	.97	5.82
1141	S-8	S.C. bayonet	12.8	1.44	.53	3.20
1142	S-8	D.C. bayonet	12.8	1.44	.61	3.65
1143	RP-11	S.C. bayonet	12.5	1.98	1.27	7.61
1144	RP-11	D.C. bayonet	12.5	1.98	1.24	7.47

*S.C. single contact; D.C., double contact; Min., miniature. †Outside coated red. ‡Outside coated green. ▲Outside coated amber. ***FET included where applicable.**

General Electric Miniature Lamps

PANEL, PILOT, FLASHLIGHT LAMPS (CONT'D)

Lamp No.	Bulb	Base*	Design Volts	Design Amps	Net Price* Each	Net Price* Box10
1154	S-8	D.C. indexing	6.4	2.63	$ .72	$ 4.30
		(2 pos. taillight)	7.0	.75		
1156	S-8	S.C. bayonet	12.8	2.10	.70	4.18
1157	S-8	D.C. indexing	12.8	2.10	.57	3.43
		(2 pos. taillight)	14.0	.59		
1157A▲	S-8	D.C. indexing (front park & turn signal)	12.8	2.10	1.03	6.20
			14.0	.59		
1158	S-8	D.C. bayonet	6.4	2.63	.73	4.41
		(2 pos. taillight)	7.0	.75		
1176	S-8	D.C. bayonet	12.8	1.34	.68	4.08
		(2 pos. taillight)	14.0	.59		
1183	RP-11	S.C. bayonet	5.5	6.25	1.25	7.48
1184	RP-11	D.C. bayonet	5.5	6.25	1.35	8.10
1195	RP-11	S.C. bayonet	12.5	3.00	1.90	11.41
1196	RP-11	D.C. bayonet	12.5	3.00	1.71	10.28
1203	S-8	S.C. bayonet	28.0	.71	2.02	12.11
1204	S-8	D.C. bayonet	28.0	.71	2.22	13.22
1209	RP-11	S.C. prefocus	6.1	4.1	2.40	14.41
1224	G-6	D.C. bayonet	34	.16	1.17	7.00
1224K	G-6	Candelabra screw	32	.16	1.18	7.09
1228	S-8	D.C. bayonet	34.0	.45	1.96	11.75
1240	G-16½	D.C. prefocus	32	3.6	3.84	23.03
1247	G-6	S.C. bayonet	14	.48	.82	4.93
1251	G-6	S.C. bayonet	28	.23	.89	5.33
1252	G-6	D.C. bayonet	28	.23	.99	5.96
1295	S-8	S.C. bayonet	12.5	3	2.02	12.11
1302	T-3¼	Min. bayonet	6.3	.035–.050	.50	3.00
1309	B-6	S.C. bayonet	28	.52	3.43	20.57
1314X	G-6	D.C. bayonet	6.5	1.02	1.18	7.08
1315	G-5	S.C. bayonet	2.5	1.00	1.57	9.42
1323	RP-11	S.C. prefocus	6.2	4.13	1.92	11.54
1325	RP-11	S.C. prefocus	6.2	4.13	4.31	25.88
1380	R-12	D.C. bayonet	28	1.35	5.41	32.43
1385	R-12	S.C. bayonet	28	20 W	4.31	25.88
1406	G-4½	Min. bayonet	6.0	.04	1.20	7.19
1408	T-3¼	Min. bayonet	10	.13	.55	3.28
1413	T-4½	Min. bayonet	14	.46	1.25	7.48
1416	T-4½	Min. bayonet	12.8	.80	1.25	7.48
1434	T-5	S.C. bayonet	3.7	2.75	6.98	41.90
1445	G-3½	Min. bayonet	14.4	.135	.34	2.06
1446	G-3½	Min. screw	12.0	.20	.54	3.24
1447	G-3½	Min. screw	18	1.5	.37	2.22
1449	G-3½	Min. screw	14.0	.20	.30	1.80
1450	G-3½	Min. bayonet	24	.035	1.91	11.45
1458	G-5	Min. bayonet	20	.25	.64	3.81
1459	S-8	S.C. bayonet	4.0	.80	1.60	9.60
1460	S-8	D.C. prefocus	6.5	2.75	4.84	29.05
1460X	S-8	D.C. prefocus	6.5	2.75	6.39	38.36
1471	G-6	Candelabra screw	12	.26	1.31	7.89
1474	T-3	Min. screw	14.0	.17	.77	4.64
1476	T-3	Min. screw	18.0	.17	.96	5.78
1477	T-3	Min. screw	24.0	.17	1.19	7.16
1479	T-4	Candelabra screw	14	.17	1.92	11.54
1480	T-4	Candelabra screw	18	.17	1.92	11.54
1482	G-4½	Min. screw	6.0	.45	.63	3.76
1483	G-4½	Min. screw	6.0	.04	.62	3.75
1487	T-3¼	Min. screw	14	.20	.47	2.79
1488	T-3¼	Min. bayonet	14	.15	.50	2.98
1489	T-5	S.C. bayonet	6.5	2.75	5.69	34.15
1490	T-3¼	Min. bayonet	3.2	.16	.38	2.31
1493	S-8	D.C. bayonet	6.5	2.75	2.36	14.13
1495	T-4½	Min. bayonet	28	.30	.80	4.80
1497	S-8	D.C. bayonet	6.5	2.75	3.62	21.69
1501	RP-11	S.C. prefocus	5.9	6.36	2.80	16.80
1503	RP-11	S.C. prefocus	5.9	6.53	2.80	16.80
1507	RP-11	S.C. prefocus	12.5	3.00	3.40	20.41
1561	S-11	S.C. prefocus	6.3	4.0	8.98	53.89
1584	S-8	D.C. bayonet	4.0	2.0	2.42	14.54
1594	S-8	D.C. bayonet	6.0	5.0	4.86	29.17
1605	S-8	S.C. bayonet	6.4	2.69	2.53	15.15
1608	S-8	D.C. bayonet	6.4	2.69	2.92	17.50
1613	S-8	S.C. bayonet	6.0	1.5	2.58	15.46
1615	S-8	S.C. prefocus	6.0	5.0	4.78	28.68
1619	S-8	S.C. bayonet	6.7	1.90	2.53	15.17
1630	S-8	D.C. prefocus	6.5	2.75	3.08	18.50
1631X	S-8	D.C. prefocus	6.5	2.75	6.17	37.00
1634	S-8	D.C. prefocus	20.0	1.0	5.83	34.97
1638	S-8	D.C. bayonet	28.0	1.02	2.94	17.66
1649	S-8	D.C. prefocus	6.5	2.75	14.17	85.02
1651	S-8	S.C. bayonet	5.0	.60	1.47	8.84
1662	S-8	D.C. index	28	.93	4.91	29.44
			28	.34		
1665	S-8	S.C. bayonet	28	.80	1.96	11.74
1665IF	S-8	S.C. bayonet	28	.80	1.56	9.34
1680	S-8	S.C. bayonet	6.0	4.10	1.47	8.83
1683	S-8	S.C. bayonet	28.0	1.02	1.87	11.20
1691	S-8	S.C. bayonet	28	.61	2.35	14.08
1691IF	S-8	S.C. bayonet	28	.61	2.46	14.73
1692	S-8	D.C. bayonet	28.0	.61	3.00	18.00
1724	S-11	D.C. bayonet	6.2	4.5	1.91	11.45
1738D	T-1¾	Wire terminal	2.7	.06	.81	4.84
1759	S-11	S.C. prefocus	6.1	4.10	9.11	54.67
1763	S-11	S.C. prefocus	6.1	4.10	2.72	16.33
1764D	T-1¾	Wire terminal	28	.04	.89	5.35
1767	T-1¾	Midget screw	2.5	.20	1.28	7.71
1768	T-1¾	Midget screw	6	.20	1.52	9.09
1769	T-1¾	Midget screw	2.5	.20	1.80	10.80
1775	T-1¾	Midget screw	6.3	.075	1.85	11.12
1810	T-3¼	Min. bayonet	6.3	.40	1.57	9.42
1813	T-3¼	Min. bayonet	14.4	.10	.49	2.97

*S.C., single contact; D.C., double contact; Min., miniature.
***FET included where applicable.**

Lamp No.	Bulb	Base*	Design Volts	Design Amps	Net Price* Each	Net Price* Box10
1815	T-3¼	Min. bayonet	14	.20	$ .42	$ 2.53
1816	T-3¼	Min. bayonet	1.3	.33	.41	2.48
1818	T-3¼	Min. bayonet	24	.17	1.27	7.61
1819	T-3¼	Min. bayonet	28	.04	.66	3.94
1820	T-3¼	Min. bayonet	28	.10	.66	3.96
1821	T-3¼	Min. screw	28	.17	1.45	8.70
1822	T-3¼	Min. bayonet	36	.10	1.16	6.93
1823	T-3¼	Min. screw	48	.10	1.92	11.54
1826	T-3¼	Min. bayonet	18	.15	1.02	6.14
1828	T-3¼	Min. bayonet	37.5	.05	1.24	7.42
1829	T-3¼	Min. bayonet	28	.07	.69	4.17
1835	T-3¼	Min. bayonet	55	.05	1.40	8.39
1841	T-4	Candelabra screw	24	.17	2.19	13.13
1843	T-3¼	Min. bayonet	28	.022	1.88	11.30
1847	T-3¼	Min. bayonet	6.3	.15	.33	1.98
1850	T-3¼	Min. bayonet	5	.09	.64	3.86
1850W	T-3¼	Min. bayonet	5.0	.09	.54	3.23
1855	T-4½	Min. bayonet	6.3	.80	.68	4.07
1864	T-3¼	Min. bayonet	28	.17	.82	4.89
1866	T-3¼	Min. bayonet	6.3	.25	.41	2.45
1867	T-3¼	Min. bayonet	4	.06	.79	4.75
1874	T-5	S.C. bayonet	3.7	2.75	5.86	35.15
1876	T-5	S.C. bayonet	3.5	2.50	8.75	52.47
1884	T-5	S.C. bayonet	6.5	1.54	11.05	66.32
1886	T-4½	Min. bayonet	6.3	.90	.73	4.39
1891	T-3¼	Min. bayonet	14	.24	.30	1.79
1892	T-3¼	Min. bayonet	14.4	.12	.47	2.82
1893	T-3¼	Min. bayonet	14	.33	.34	2.03
1895	G-4½	Min. bayonet	14.0	.27	.34	2.06
1898	T-3¼	Min. bayonet	14	.33	.70	4.21
1906	T-3¼	Min. bayonet	5.0	.07	1.09	6.56
1909	T-3¼	Min. bayonet	14.4	.10	.60	3.58
1926	T-8	D.C. prefocus	11	1.00	13.59	81.53
2140D	TL-1¾	Wire terminal	2.5	.35	3.82	22.90
2158D	T-1¾	Wire terminal	3	.013–.017	2.27	13.64
2180D	T-1¾	Wire terminal	6.3	.04	1.84	11.03
2181D	T-1¾	Wire terminal	6.3	.20	1.00	5.99
2182D	T-1¾	Wire terminal	14	.08	1.07	6.44
2187D	T-1¾	Wire terminal	28	.04	1.55	9.31
2233	S-8	S.C. bayonet	28	.766	4.40	26.38
2330	RP-11	D.C. prefocus	6.2	4.23	2.40	14.41
2331	RP-11	D.C. prefocus	5.9	4.66	2.50	15.01
		(2-pos. headlamp)	6.2	4.49		
2530	RP-11	D.C. prefocus	5.9	6.53	2.80	16.80
		(2-pos. headlamp)	6.2	4.23		
7327	T-1¾	Bi-Pin	28	.04	1.55	9.31
7381	T-1¾	Bi-Pin	6.3	.20	2.10	12.62
7382	T-1¾	Bi-pin	14	.08	2.10	12.62
7387	T-1¾	Bi-pin	18	.04	2.06	12.39
8361	T-1¾	S.C. midget flange	28	.065	1.43	8.61

*S.C., single contact; D.C., double contact; Min., miniature.
***FET included where applicable.**

NEON INDICATING GLOW LAMPS

Gaseous-discharge type for use as indicators. Average useful life, 25,000 hours AC; Types B5A, B6S, 7,500 hours; Types B7A, B8A, B95, 5,000 hours; Types G2B, L5A, J5A, R1A, R6A, R9A, 10,000 hours; Type S2A, 20,000 hours; Type S3A, 15,000 hours. DC is approximately 60% of AC values. **Ambient Temperature:** Not to exceed 300°F.

Lamp No.	Bulb (Clear)	Base	Nom. Watts	Res. Ohms	Net Each
A1B†	T-2	1″ wire terminal	1/25	220K	$0.28
A1C†	T-2	1″ wire terminal	1/7	47K	.31
A1G†	T-2	S.C. midget flanged	1/25	220K	1.48
A1H	T-2	S.C. midget flanged	1/7	47K	1.48
A2B(NE-2V)	T-2	2″ wire terminal	1/12	100K	.29
A3C(NE-2U)	T-2	2″ wire terminal	¼	30K	.29
A9A(NE-2E)	T-2	2″ wire terminal	1/12	100K	.24
B1A(NE-51)	T-3¼	Min. bayonet	1/25	220K	.65
B2A(NE-51H)	T-3¼	Min. bayonet	1/7	47K	.65
B5A(NE-17)	T-4¼	D.C. bayonet	¼	30K	2.30
B6A(NE-21)	T-4¼	S.C. bayonet	¼	30K	2.38
B7A(NE-45)	T-4¼	Candelabra screw	¼	30K	2.26
B8A(NE-47)	T-4¼	S.C. bayonet	¼	30K	2.26
B9A(NE-48)	T-4¼	D.C. bayonet	¼	30K	1.83
C2A(NE-2H)	T-2	2″ wire terminal	¼	30K	.24
C7A(NE-2D)	T-2	S.C. midget flanged	1/12	100K	1.59
C9A(NE-2J)	T-2	S.C. midget flanged	¼	30K	1.78
D2A‡	T-2	1″ wire terminal	⅓	22K	.28
F3A(NE-57)	T-4½	Candelabra screw	¼	30K	2.57
F4A(NE-58)	T-4½	Candelabra screw*	½	100K	2.38
G2B	T-2	Green wire terminal	¼	30K	.60
J5A(NE-30)	S-11	Medium screw	1	7.5K	3.33
J9A(NE-56)	S-11	Medium screw*	1	33K	3.36
K1A5(NE-84)	T-2	Tel. slide #5	¼	30K	1.30
L5A(NE-32)	G-1	D.C. bayonet	1	7.5K	3.10
R1A(NE-79)	S-7	D.C. bayonet	1	7.5K	3.45
R6A(NE-40)	S-14	Medium screw	3	2.2K	6.44
R9A(NE-42)	S-14	D.C. bayonet skirted	3	2.2K	6.25
S-2A**	T-2	2″ wire terminal	¼	30K	.26
S-3A**	T-2	2″ wire terminal	1/25	220K	.26
T-2B	T-2	Daylight blue— 2″ wire terminal	¼	30K	.60

*210–250 volts; all others 105–125 volts. †Bulb length ½″ max. ‡Bulb length 15/16″ max. **Bulb length ⅝″ max., other wire terminal bulb length ¾″ max. **Abbreviations:** S.C., single contact; D.C., double contact; Min., miniature; Tel., telephone.

Industrial Devices Pilot Light Assemblies

MINI-SLIDE INCANDESCENT PILOT LIGHT ASSEMBLIES

Bright, highly visible light assemblies utilize miniature slide-base incandescent lamps. Rated 5000 hours life. Available in a variety of colors. Foolproof installation. UL Recognized; CSA approved.

Series 2800: For "pilot" lamps. Choice of black plastic or stainless steel bezel. Self-locking, torque-limiting nylon mtg. nut; molded polycarbonate lens is screw-in type for easy lamp replacement. Fits 1⅛" dia. mtg. hole. Quick-connect .205" terminal.

Series 3040: For "indicator" lamps. Sockets molded from black nylon. Quick-connect .205" terminals.

Series 3060: For "pilot" lamps. Choice of round or square lens of molded polycarbonate; snaps on for easy front-panel lamp replacement. Mounts in ½" dia. hole with hardened spring-steel speednut with rust-resistant finish.

Series 3130 Legend Lights: Offers larger message area and brighter illumination. Available in two, three or four terminal versions. Units are easy to install, easily relamped, stay secure, and have long life. Assemblies utilize two short slide base "indicator" lamps. Molded polycarbonate sockets, leads can be attached by soldering or with quick connect receptacles for .205" x .020" tab. Mount in either .885" x .500/.510" rectangular hole or .500/.510" double circles on ½" centers. Two push-on speednuts are supplied with each socket.

2800 with 2811

3060 with 3111

2801 with 2811

3060 with 3121

3130 Series

SOCKETS

IDI No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
2800	All plastic (black bezel)	$0.66	$0.63	$0.58	$0.51	$0.45
2801	Stainless steel bezel	.66	.63	.58	.51	.45
3040	For use with indicator lamps	.34	.31	.30	.28	.25
3043	3040 except Q-C .187" x .020" terminal	.34	.31	.30	.28	.25
3046	3040 except .060" w., no hole terminal	.34	.31	.30	.28	.25
3060	For use with pilot lamps	.36	.33	.32	.31	.28
3130	Individual contacts (4 terminals)	.79	.69	.66	.61	.56
3131	One side common (3 terminals)	.77	.67	.64	.58	.54
3132	Both sides common (2 terminals)	.76	.66	.63	.57	.53

LENSES FOR ABOVE SOCKETS

Lens Color	For Series 2800 IDI No.	For Series 2800 Net Each	For Series 3000 and 3060 Round IDI No.	Square IDI No.	Angle* IDI No.	Net Each	For Series 3130 IDI No.	For Series 3130 Net Each
Red	2811	$0.24	3111	3121	3151	$0.25	3141	$0.46
Clear	2812	.24	3112	3122	3152	.25	3142	.46
Amber	2813	.24	3113	3123	3153	.25	3143	.46
White	2814	.24	3114	3124	3154	.25	3144	.46
Green	2815	.24	3115	3125	3155	.25	3145	.46
Blue	2816	.24	3116	3126	3156	.25	3146	.46
Yellow	2817	.24	3117	3127	3157	.25	3147	.46

*For use with 3060 socket and "indicator" lamps only.

LAMPS

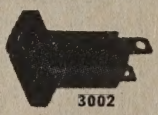
Available in two lgths., shorter – indicator; longer – pilot.

Pilot Lamp No.*	Watts	Net Each	Indicator Lamp No.*	Watts	Net Each
6PSB	.8	$0.81	4ESB	.2	$0.77
12PSB	2.0	.81	5ESB	.2	.77
24PSB	1.7	.81	6ESB	.2	.77
28PSB	1.1	.81	10ASB	.1	.77
48PSB	2.5	.81	10CSB	.2	.77
60PSB	3.0	.81	10ESB	.4	.73
120PSB	3.0	.81	12ESB	.4	.77
			16CSB	.3	.77
			16ESB	.6	.77
			18ESB	.7	.77
			24CSB	.4	.77
			24ESB	1.0	.77
			28ESB	1.1	.77
			48ESB	1.9	.95

*Prefix indicates voltage (e.g. 4ESB 4V).

INDIVIDUAL SOCKETS

3001



3002

Available in round or rectangular styles. Models 3001 and 3002 molded from black nylon and accept indicator lamps; model 3061 is molded black phenolic and accepts the longer pilot slide base lamps. Mount in either ½" dia. hole or standard D shaped hole. Push-on speed nuts are supplied with sockets. Quick-connect terminal .205"x .020".

Model 3001—Round; for use with "indicator" lamps. Net Each..... **$0.32**

Model 3041—Same except terminal .187"x .020". Net Each..... **$0.32**

Model 3044—Same except terminal .060" w.; no hole. Net Each..... **$0.32**

Model 3002—Rectangular; for use with "indicator lamps." Net Each..... **$0.32**

Model 3042—Same except terminal .187"x .020". Net Each..... **$0.32**

Model 3045—Same except terminal .060" wide and no hole. Net Each..... **$0.32**

Model 3061—Round; for use with "pilot" lamps. Net Each..... **$0.36**

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

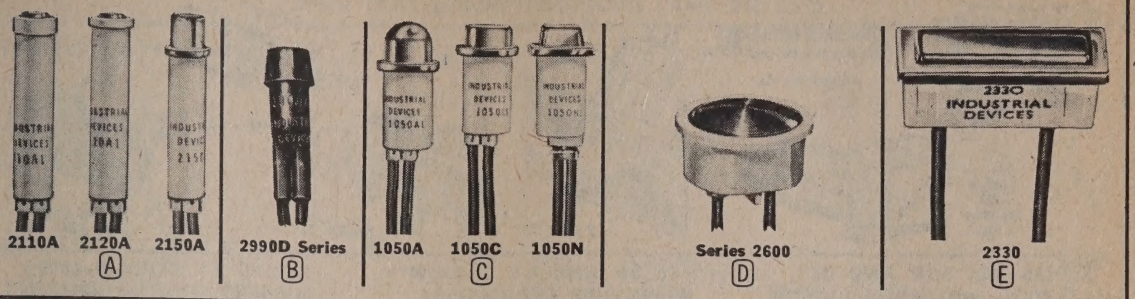
INDICATOR LAMP MULTI-SOCKET STRIPS

Molded in strips of 12 sockets of black polycarbonate. Available in two basic types—½" or ¾" centers. Strips are available with a common ground or individual connection. Push-in speednuts supplied.

IDI No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
3003	¾" centers—common ground	$3.28	$2.93	$2.79	$2.57	$2.46
3004	¾" centers—individual ground	3.41	3.14	3.03	2.74	2.63
3005	½" centers—common ground	3.28	2.93	2.79	2.57	2.46
3006	½" centers—individual ground	3.41	3.14	3.03	2.74	2.63

IDI INTEGRAL LENS CARTRIDGES, LED AND COMPLETE LINE OF TEST EQUIPMENT ALSO AVAILABLE. SPECS AND PRICES ON REQUEST

Industrial Devices Pilot Lights



2110A 2120A 2150A (A) | 2990D Series (B) | 1050A 1050C 1050N (C) | Series 2600 (D) | 2330 (E)

NEON PILOT LIGHTS

Enhance as well as beautify any product; complement and highlight design while inviting attention. Rugged, long life design (10,000 hours) is unaffected by vibration or shock. Tamper-proof housing; mount quickly. Hardened spring steel speednut with rust-resistant finish furnished. Wire leads are 4½" plastic stripped ½". Quick-connect terminals tinned for soldering convenience are available as noted. For 105-120 VAC (120 VAC) except 1051 Series 250 VAC. UL Recognized and CSA approved.

GLO-DOT SERIES (FIG. A)

Choice of three lens styles and two mounting types. Mounts in 5/16" dia. hole.

Lens Color	Wire Leads			0.187" Terminals		
	IDI No.	IDI No.	Net Ea.	IDI No.	IDI No.	Net Ea.
Red	2110A1	2150A1	$0.87	2110QA1	2150QA1	$0.87
Clear	2110A2	.....	.87	2110QA2	.....	.87
Amber	2110A3	2150A3	.87	2110QA3	2150QA3	.87
White	2110A4	2150A4	.87	2110QA4	2150QA4	.87
Green	2112A5	2152A5	1.07	2112QA5	2152QA5	1.07

Wire leads only.

Lens Color	IDI No.	Net Ea.	Lens Color	IDI No.	Net Ea.
Red	2120A1	$0.87	White	2120A4	$0.87
Amber	2120A3	.87			

OMNI-GLOW SERIES 2600K (FIG. B)

Versatile general purpose pilot light. Mounts in 7/8" dia. hole.

Lens Color	Wire Leads		0.250" Terminals	
	IDI No.	Net Each	IDI No.	Net Each
Red	2620K1	$0.87	2620QK1	$0.87
Amber	2620K3	.87	2620QK3	.87
White	2620K4	.87	2620QK4	.87
Green	2622K5	1.07	2622QK5	1.07

OMNI-GLOW SERIES 1050 (FIG. C)

Choice of three lens styles, two mounting types and two voltage ratings. Mounts in ½" dia. hole.

Lens Color	Wire Leads			0.187" Terminals		
	120 VAC	250 VAC	Net Each	120 VAC	250 VAC	Net Each
	IDI No.	IDI No.		IDI No.	IDI No.	
Red	1050A1	1051A1	$0.87	1050QA1	1051QA1	$0.87
Clear	1050A2	1051A2	.87	1050QA2	.....	.87
Amber	1050A3	1051A3	.87	1050QA3	1051QA3	.87
White	1050A4	1051A4	.87	1050QA4	1051QA4	.87
Green	1052A5	1053A5	1.08	1052QA5	1053QA5	1.08

Following are all rated 120 VAC.

Lens Color	Wire Leads			0.187" Terminals		
	IDI No.	IDI No.	Net Ea.	IDI No.	IDI No.	Net Ea.
Red	1050C1	1050N1	$0.87	1050QC1	1050QN1	$0.87
Amber	1050C3	1050N3	.87	1050QC3	1050QN3	.87
White	1050C4	1050N4	.87	1050QC4	1050QN4	.87
Green	1052C5	1052N5	1.08	1052QC5	1052QN5	1.08

LINE-O-LITE SERIES 2330D (FIG. D)

Mount in 1 3/32" x .395/.400" hole; will snap-fit into panels of .055"-.070" thick without speednut and into other thicknesses with speednut. Specify with or without speednut.

Lens Color	Wire Leads	0.250" Terminal	Speednut	
			With	Without
	IDI No.	IDI No.	Net Ea.	Net Ea.
Red	2330D1	2330QD1	$0.98	$0.87
Amber	2330D2	2330QD3	.98	.87
White	2330D4	2330QD4	.98	.87
Green	2332D5	2332QD5	1.71	1.69

INCANDESCENT PILOT LIGHTS

OMNI-GLOW SERIES 1090A (FIG. E)

General purpose pilot lights in 6, 12 or 28 volts. Mounts in ½" dia. hole. Hardened spring steel speednut with rust-resistant finish. Wire leads 4½" plastic stripped ½".

Lens Color	6 Volts		12 Volts		28 Volts	
	IDI No.	Net Ea.	IDI No.	Net Ea.	IDI No.	Net Ea.
Red	1090A1-6V	$1.08	1090A1-12V	$1.08	1090A1-28V	$1.08
Amber	1090A3-6V	1.08	1090A3-12V	1.08	1090A3-28V	1.08
White	1090A4-6V	1.08	1090A4-12V	1.08	1090A4-28V	1.08
Green	1090A5-6V	1.08	1090A5-12V	1.08	1090A5-28V	1.08
Blue	1090A6-6V	1.08	1090A6-12V	1.08	1090A6-28V	1.08

GLO-DOT 2990D SERIES (FIG. F)

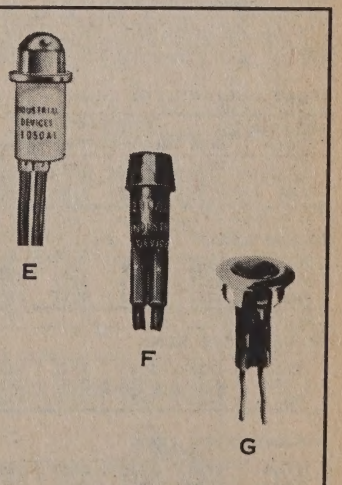
Low-cost, one-piece lens body indicator lights have built-in incandescent lamp in choice of 6, 12 or 28 volts. Wire leads are 4½" plastic stripped ½". Mounts in 5/16" dia. hole. Hardened spring steel speednut with rust-resistant finish.

Lens Color	6 Volts		12 Volts		28 Volts	
	IDI No.	Net Ea.	IDI No.	Net Ea.	IDI No.	Net Ea.
Red	2990D1-6V	$0.87	2990D1-12V	$0.87	2990D1-28V	$0.87
Amber	2990D3-6V	.87	2990D3-12V	.87	2990D3-28V	.87
White	2990D4-6V	.87	2990D4-12V	.87	2990D4-28V	.87
Green	2990D5-6V	.87	2990D5-12V	.87	2990D5-28V	.87
Blue	2990D6-6V	.87	2990D6-12V	.87	2990D6-28V	.87
Yellow	2990D7-6V	.87	2990D7-12V	.87	2990D7-28V	.87

GLO-DOT 2990P SERIES (FIG. G)

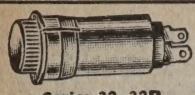
One-piece lens body indicator lights have built-in incandescent lamp in choice of 6, 12 or 28 volts. Mounts in ½" dia. hole in 1/32" to 3/32" thick panels. With plug and low profile lens.

Lens Color	6 Volts		12 Volts		28 Volts	
	IDI No.	Net Ea.	IDI No.	Net Ea.	IDI No.	Net Ea.
Red	2990P1-6V	$0.98	2990P1-12V	$0.98	2990P1-28V	$0.98
Amber	2990P3-6V	.98	2990P3-12V	.98	2990P3-28V	.98
White	2990P4-6V	.98	2990P4-12V	.98	2990P4-28V	.98
Green	2990P5-6V	.98	2990P5-12V	.98	2990P5-28V	.98
Blue	2990P6-6V	.98	2990P6-12V	.98	2990P6-28V	.98
Yellow	2990P7-6V	.98	2990P7-12V	.98	2990P7-28V	.98

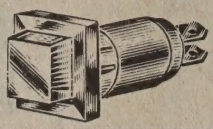


QUANTITY DISCOUNTS AVAILABLE ON REQUEST

LEECRAFT® Indicator Lights


Series 32, 32R Cylindrical Lens

Series 36, 41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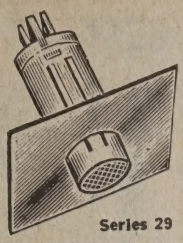
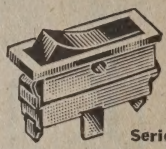
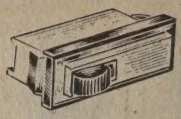

Series 29


Series 71


Series 51

Series 31 and 31D

SERIES 32, 32R AND 35 SNAPLITE™ INDICATOR LIGHTS

UL and CSA Approved. Wide variety of lens and housing colors. Available with either high brightness neon or miniature incandescent lamps. Supplied with 6″ insulated 18-ga. wire leads; available with .187″ tab terminals at same price by adding suffix **T** to model (e.g., 32-G1-2111**T**).

WITH CYLINDRICAL LENS*

Leecraft No.*	Rating Volts	mA	Net Ea. 25-99	Net per 100 100-249	250-499
32†	110–125	§	$1.09	$65.59	$58.90
32-G1	6.3	200	1.43	84.21	81.56
32-G2	6	40	1.80	114.33	109.23
32-G3	14	80	1.51	87.30	85.82
32-G5	28	40	1.43	83.84	82.37
35†.	210–250	§	1.09	65.59	58.90

WITH CHROME BEZELS*

Leecraft No.*‡	Rating Volts	mA	Net Ea. 25-99	Net per 100 100-249	250-499
32R†	110–125	§	$1.19	$70.73	$63.49
32RG1	6.3	200	1.51	89.50	85.40
32RG2	6	40	1.88	120.82	109.98
32RG3	14	80	1.56	92.56	89.64
32RG5	28	40	1.51	88.82	86.08
35R†	210–250	§	1.19	70.73	63.49

†Neon; all others incandescent. ‡Fits .500″–.513″ hole size; for .514″–.519″ hole size, add letter **C** (i.e., 32**C**R, 32**C**RG1, etc); same price. §⅓ W.

* ADD LENS, COLOR SUFFIXES

Add suffix for lens and housing color desired. (Example: 32-**1113** = indicator with black housing and amber lens.) Add **T** designation to end of color suffix when ordering indicator with tab terminals. (Example: 32-1113**T** = indicator with black housing, amber lens and tab terminals.)

*FLAT CYLINDRICAL LENS

Housing Color	Lens Color Red	Amber	Clear	White
Black	1111	1113	1117	1115
White	2111	2113	2117	2115
Red	3111	3113	3117	3115

*DOME LENS

Black	1211	1213	1217	1215
White	2211	2213	2217	2215
Red	3211	3213	3217	3215

*FLUSH TYPE LENS

Black	1311	1313	1317	1315
White	2311	2313	2317	2315
Red	3311	3313	3317	3315

*HI-HAT TYPE LENS

Black	1511	1513	1517	1515
White	2511	2513	2517	2515
Red	3511	3513	3517	3515

*FLUSH SQUARE

White	R2711	R2713	R2717	R2715

*SQUARE LENS

White	R2911	R2913	R2917	R2915

SERIES 36 AND 41 TINEON™ MINIATURE INDICATORS

Supplied with either high brightness neon or miniature incandescent lamps. Fits 5⁄16″ dia. hole; includes speed nut. Series 41-00 used with incandescent lamps or neon lamps without resistor. Series 36-00 supplied with neon lamps and built-in resistor. Available with one or two-digit legends hot stamped on lens and in multiple strip assemblies. Available with or without bezel in a variety of housing colors, with flush and hi-hat lens. Wire leads, 5⁄16″ mtg. hole.

WITHOUT ALUMINUM BEZEL

Leecraft No.*	Rating Volts	mA	Net Ea. 25-99	Net per 100 100-249	250-499
36N†	110–125	‡	$1.03	$65.59	$58.90
36HN†	210–250	‡	1.03	65.59	58.90
41N†	250 max	‡	.98	65.59	55.27
41N-G1	6.3	200	1.30	82.67	80.05
41N-G2	6	40	1.65	112.82	107.73
41N-G3	14	80	1.34	87.02	85.67
41N-G5	28	40	1.30	82.95	80.87

WITH ALUMINUM BEZEL

36EN†	110–125	‡	$1.25	$79.74	$69.51
36HEN†	210–250	‡	1.25	79.74	69.51
41EN†	250 max	‡	1.17	74.60	66.50
41EN-G1	6.3	200	1.43	91.85	86.10
41EN-G2	6	40	1.80	121.93	113.81
41EN-G3	14	80	1.51	94.90	90.33
41EN-G5	28	40	1.43	91.44	86.90

†Neon; all others incandescent. ‡⅓ W.

*ADD LENS, COLOR SUFFIXES

36-N AND HN, 41-N COLORS

Add suffix for color desired. (Example: 36HN-**3311** = indicator with red housing and red lens.)

Housing Color	Lens Color Red	Amber	White	Clear
Black	1311	1313	1315	1317
White	2311	2313	2315	2317
Red	3311	3313	3315	3317
Gray	7311	7313	7315	7317

36-EN AND HEN, 41-EN COLORS

Add suffix for color desired. (Example: 36HEN-**2311** = 210–250 volts with red flush type lens.) With aluminum bezel, white housing.

Lens	Red	Amber	Clear	White
Flush	2311	2313	2317	2315
Hi-Hat	2111	2113	2117	2115

SERIES 29 REAR MOUNT INDICATOR LIGHTS

Lights snap in from rear of panel, locking in place with no additional hardware needed. Removable by compressing release mechanism on unit. Mtg. hole .510″ to .520″. Available with either wire leads or male tab terminals. Designate tabs by placing **T** after part number when ordering (e.g., 29H-2411**T**). Incandescent versions available, write for information and pricing. UL and CSA Approved. Rated ⅓ W.

Leecraft Number*	Volts	Net Ea. 25-99	Net per 100 100-249	250-499
29	125	$1.19	$71.56	$63.14
29H	250	1.19	71.56	63.14

*Add color suffix for housing and lens color desired. (Example: 29H-**2431T** = Indicator with white housing, red lens, 250 volts and tab terminals.)

Housing Color	Lens Color Red	Amber	Clear	White
White	2431	2433	2437	2435
Black	1131	1133	1137	1135

SERIES 71 ROCK-A-LITE® LIGHTED ROCKER SWITCH

Ultra-compact, lighted rocker switch minimizes arcing. Snap-in mounting panel opening, 1.281″ x .395″. With neon or incandescent lamps; .250″ brass tab terminals, .187″ tabs available. CSA and UL Listed. Size, 1 3⁄32″ w. x 1 5⁄16″ d. x 1 7⁄16″ length.

Lee. No.	Volts	Lamp Cur.	Net Each 1-24	25-99	Net/ 100
71*	125	⅓ W	$1.85	$1.33	$115.29
71H*	250	⅓ W	1.85	1.33	115.29
71-G1	6.3	.20 A	1.97	1.45	132.71
71-G2	6.0	.04 A	2.25	1.72	159.30
71-G3	14	.08 A	1.97	1.45	129.22
71-G5	28	.04 A	1.97	1.45	125.16

*Neon; all others incandescent.

Add suffix for lens color. (Example: 71H-**2431T** = 250 volt rocker with red lens, standard .250″ tab terminals. For .187″ terminals add 3 after T (e.g., 71H-2431T3).

Red	Green	Amber	Blue	White	Clear
2431T	2432T	2433T	2434T	2435T	2437T

SERIES 51 SLIDELITE™ SLIDE/SWITCH PILOT LIGHTS

Available in either high-brightness neon or miniature incandescent lamp. Snap-in mounting in panel hole 1.281″ x .395″. Available with either wire leads or male quick-connect terminals. SPST switch and self-wiping contacts rated 6 amps at 125 volts. UL and CSA Approved.

Lee. No.*	Volts	Lamp Cur.	Net Each 1-24	25-99	Net/ 100
51†	110–125	⅓ W	$2.01	$1.41	$118.50
51-G1	6.3	.2 A	2.15	1.54	138.24
51-G2	6	.04 A	2.47	1.86	168.40
51-G3	12–14	.08 A	2.15	1.54	134.29
51-G5	28	.04 A	2.15	1.54	129.70
51H†	210–250	⅓ W	2.01	1.41	118.50

*Add suffix for lens color desired. (Example: 51H-**2431** = 250-volt Slidelite, with red lens.) Part numbers listed have tab terminals. For wire leads omit **T** at end of number, (e.g., 51-**2431T** becomes 51-**2431**).

Red	Green	Amber	Blue	White	Clear
2431T	2432T‡	2433T	2434T‡	2435T	2437T

†Neon; all others incandescent. ‡Colors not recommended for neon.

SERIES 31 AND 31D INDICATORS

Provides maximum message display in compact area. Includes long-life high brightness neon or incandescent lamp. Series 31 and 31H equipped with 18-gauge insulated leads. Series 31T and 31HT equipped with .250″ brass tabs; .187″ tabs also available. White nylon housing with chrome-plated bezel. Mtg. hole 1.281″ x .395″; ½″ d. behind panel. Rated ⅓ watt at 110–125 volts. Series 31D special units incorporate two lamps, 3 terminations, in standard housing; can activate two legends separately or simultaneously, write for complete information. UL, CSA Approved.

Leecraft No.*	Rating Volts	mA	Net Ea. 25-99	Net per 100 100-249	250-499
31†	110–125	‡	$1.17	$70.73	$61.91
31-G1	6.3	200	1.58	90.34	86.08
31-G2	6	40	1.88	120.41	114.45
31-G3	14	80	1.56	93.36	90.33
31-G5	28	40	1.51	89.93	87.02
31H†	210–250	‡	1.17	70.73	61.91
31D†	110–125	‡	1.81	115.74	109.30

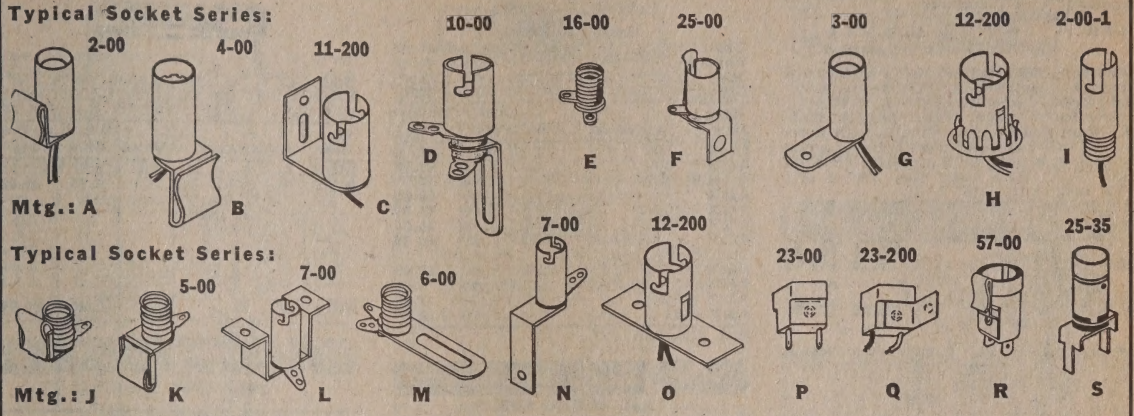
*When ordering, add suffix for lens color desired (e.g., 31H-**2111** for 210-250 V light with red lens). All above lights also available with .250″ tab terminals at same price; to order add suffix **T** (31H2111**T**).

Red	Amber	Clear	White	Blue	Green
2111	2113	2117	2115	2114	2112

†Neon; all others incandescent. ‡ ⅓W.

LEECRAFT® Lamp Sockets

OPEN TYPE BRACKET-MOUNTED LAMP SOCKETS



Sockets illustrated are typical for Series indicated (top number). Mountings (bottom letter) are referred to in tables below. Terminals or leads as stated below.

Includes heavy cadmium plated steel mounting brackets, .025″–.032″; less lens and lamp. Wide variety of bracket styles, available with wire leads or solder terminals. Many other types are available; write for information.

SERIES 2-00 MINIATURE BAYONET

Built-in 22 gauge wire leads, 6″ long, for low voltage incandescent lamps such as T-3¼, G-3½ or G-4½. Includes insulating sleeve, except models with suffix **-1**, which have bracket grounded to shell.

Leecraft No.	Mtg.	Net Each 1-24	Net Each 25-99	Net/ 100
2-01	A	$0.81	$0.48	$38.59
2-02	B	.81	.48	38.59
2-05	C	.81	.48	38.59
2-06	D	.81	.48	38.59
2-07	E	.81	.48	38.59
2-08	F	.81	.48	38.59
2-12	G	.81	.48	38.59
2-08-1	F	.81	.49	38.59
2-40-1	H	.81	.49	38.59
2-30N-1	I	1.03	.75	56.58

SERIES 3-00 MINIATURE BAYONET

Housed in molded phenolic for NE-51 neon, low voltage incandescent lamps. Built-in 6″ wire leads. Rated 75 watts at 125 volts. UL and CSA Approved.

3-01	A	$0.85	$0.58	$46.30
3-05	C	.85	.58	46.30
3-06	D	.85	.58	46.30
3-08	F	.85	.58	46.30
3-12	G	.85	.58	46.30

SERIES 7-00 MINIATURE BAYONET

Tinned solder terminals, for low voltage incandescent lamps such as T-3¼, G-3½ or G-4½. Insulating sleeve available.

7-01	A	$0.72	$0.43	$30.87
7-02	B	.72	.43	30.87
7-06	D	.72	.43	30.87
7-07	E	.72	.43	30.87
7-08	F	.72	.43	30.87
7-11	L	.72	.43	30.87
7-12	G	.72	.43	30.87
7-20	N	.72	.43	30.87
7-35	S	.90	.66	48.99

SERIES 5-00 MINIATURE SCREW

Tinned solder terminals, 60°–90° apart, for low voltage incandescent lamps.

Leecraft No.	Mtg.	Net Each 1-24	Net Each 25-99	Net/ 100
5-03	J	$0.69	$0.46	$33.07
5-04	K	.69	.46	33.07
5-05	C	.69	.46	33.07
5-06	D	.69	.46	33.07
5-07	E	.69	.46	33.07
5-08	F	.69	.46	33.07

SERIES 16-00 MIDGET SCREW

Solder terminals, for P-2½, T-1¾ lamp.

16-07	E	$0.85	$0.58	$46.30
16-08	F	.85	.58	46.30

SERIES 4-00 CANDELABRA SCREW

Heavy molded phenolic housing extends well above socket shell; for incandescent or neon lamps, such as NE-45, S6 or 10C7. Rated 75 watts at 125 volts; 18 gauge wire leads. UL and CSA Approved.

4-01	A	$0.85	$0.58	$46.30
4-02	B	.85	.58	46.30
4-05	C	.85	.58	46.30
4-06	D	.85	.58	46.30
4-08	F	.85	.58	46.30
4-12	G	.85	.58	46.30

SERIES 6-00 CANDELABRA SCREW

Tinned solder terminals, for incandescent lamps such as G6 and S6.

6-05	C	$0.72	$0.50	$34.91
6-06	D	.72	.50	34.91
6-07	E	.72	.50	34.91
6-08	F	.72	.50	34.91
6-11	L	.72	.50	34.91
6-13	M	.72	.50	34.91

SERIES 23-00 WEDGE BASE

Rapid insertion and secure positioning of wedge lamps. Molded housing. Types 23-07 and 23-24 have slotted hole, double contact terminals; others have wire leads.

23-07	P	$0.72	$0.50	$38.59
23-24	Q	.72	.50	38.59
23-207	P	.81	.58	46.30
23-224	Q	.81	.58	46.30

SERIES 10-00, 11-200 SINGLE CONTACT CANDELABRA BAYONET

Similar to double contact candelabra types. Series 10-00 has solder terminals; 11-200 has wire leads.

Leecraft No.	Mtg.	Net Each 1-24	Net Each 25-99	Net/ 100
10-06	D	$0.81	$0.49	$38.59
10-08	F	.81	.49	38.59
11-271	C	.81	.58	46.30
11-272	D	.81	.58	46.30

SERIES 12-200 DOUBLE CONTACT CANDELABRA BAYONET

Wire leads, for incandescent and neon lamps such as NE-48, G6, S6 or 10C7. Brackets of .035″–.042″ steel (12-240 is clip mounted). Contacts mounted in phenolic disc, separately sprung by small coils. UL and CSA Approved.

12-207	E	$0.99	$0.68	$61.24
12-225	O	.99	.68	61.24
12-240	H	.99	.68	61.24
12-271	C	.99	.68	61.24
12-272	D	.99	.68	61.24

SERIES 57-00 DOUBLE CONTACT CANDELABRA BAYONET

Molded phenolic housing, with male tab terminals that fit into terminal boards with female quick-connect terminals. Brackets of .035″–.042″ steel. For incandescent and neon lamps such as NE-48, S6. Rated 75 watts. UL and CSA Approved.

57-24	Q	$0.85	$0.58	$46.30
57-45	R	.85	.58	46.30

SERIES 25-00 MIDGET GROOVED

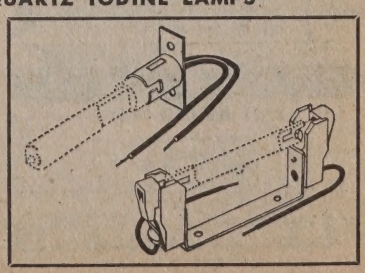
Subminiature sockets for T-1¾ midget grooved base lamps, including lens-end lamps. Tinned solder lugs (available with wire leads). Size, ⅜″ h.; spaced on centers as close as ¼″.

25-06	D	$1.03	$0.75	$65.59
25-08	F	1.03	.75	65.59
25-12	G	1.03	.75	65.59
25-35	S	1.18	.92	85.73

LAMPHOLDERS FOR SINGLE-ENDED AND DOUBLE-ENDED QUARTZ IODINE LAMPS

Series 22-25 Double Contact, Bayonet Base—Single-ended socket permits lamp to be positioned accurately, securely while minimizing possibility of shaking loose from vibration. Swift, simple installation. Eliminates extra bulb handling required with screw-in type sockets. Optimum heat sink for cool operation. Commonly used for stage, film and TV lighting; optical devices and instruments; and, general lighting. With 6″ Teflon* insulated leads. UL and CSA rated at 200° C. Net Ea., Lots 1–24 **$2.00**; 25–99 **$ 1.50**
Net per 100: Lots of 100–249 **$116.35**; 250–499 **109.78**

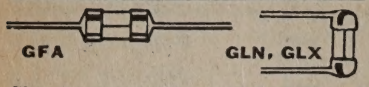
Series 26-00 Recessed Single Contact—For double ended recessed single contact (RSC) base lamps. Used primarily for sign lighting, photocopy equipment, general floodlighting. Heavy molded ceramic housing, silver-plated copper contacts; insulated bracket mounting. Rated 600 V at 2000 W. **No. 26-07:** With ¼″ male tab terminal that fits std. female quick connect terminals. **No. 26-207:** With built-in wire lead 4″ lg., stripped ½″ on ends, UL and CSA Approved to 200° C. Net Each, Lots of 1–24 **$1.46**; 25–99 **$ 1.31**
Net per 100: Lots of 100–249 **$114.77**; 250–499 **107.02**



*Reg. DuPont trademark.

Buss® and Fusetron® Fuses, Holders

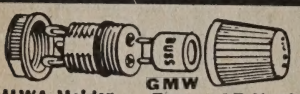
TRON® SUBMINIATURE PIG-TAIL FUSES



Glass-tube construction with 1½" leads of #24 tinned copper for 1/100–5 amp ratings, #18 tinned copper for 7–15 amp ratings. Hermetically sealed. Color coded to indicate amp ratings. For circuits with fault current of 50 amps or less (1/100–5 amps for 125 V or less, 7–15 amps for 32 V or less). GLN, GLX body size, .140" x .3"; GFA body size, .145" x .3".

Buss No.	Amperes	Net Price For Ten	100
GLN	1/100	$19.30	$161.00
GLN	1/32, 1/20, 1/16, 1/10, 1/8, 3/10, 4/10, 7, 8, 15	16.10	135.00
GLX	15/100, 2/10, 1/4, 1/2, 6/10, 3/4, 1, 1½, 2, 3, 4, 5	21.00	175.00
GFA	1/100, 1/32, 1/20, 1/16, 1/10, 1/8, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10	6.90	58.00
GFA	3/4, 1, 1½, 2, 3, 4, 5, 7, 8, 15	6.20	52.00

SUBMINIATURE PRONG TYPE UNIT



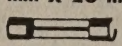
Rated 125 V or less, faulty current not over 300 amps; open at 200% within 10 sec. or less. Use AF knob for waterproof. Size, .27" dia., ¼" lg. (body).

Buss No.	Amperes	Net Price for Ten	100
GMW	1/200,1/100, 1/64, 1/32, 1/16	$11.60	$97.00
GMW	1/10, 2/10, ¼, 3/10, 4/10, ½, 6/10, ¾, 1, 1½, 2, 3, 4, 5	8.80	74.00
HWA*	Holder, fits all GMW	11.50	95.00
HWA†	Holder, fits all GMW	10.00	83.00
AF	Knob only, fits HWA	1.50	12.00

*With AF knob. †Without AF knob.

13/64 x 45/64 inch FUSES

(5 mm X 20 mm)

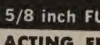


Protection of miniaturized circuits commonly used in foreign equipment. Carry 100% open at 200% in 10 sec.

Buss No.	Amperes	Net Price for Five	100
GMA	1/8, 1/10, 2/10	$3.25	$55.00
GMA	¼, 3/10, 4/10, ½, 6/10, 7/10	2.90	49.00
GMA	1, 1-2/10, 1½, 2, 2½, 3, 4, 5, 7, 8, 10	2.45	41.00
		1.90	32.00
		1.60	27.00

1/4 x 5/8 inch FUSES

FAST ACTING FUSES

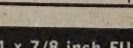


Glass tube, ¼" x ⅝". Rated 32 V, carry 110%, open at 135% in 1 hour.

AGA	1, 1½, 2, 2½, 3	$1.20	$10.00
AGA	5, 6, 7½, 10, 15, 20, 25, 30	.88	7.40

1/4 x 7/8 inch FUSES

FAST ACTING FUSES

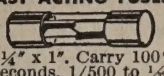


Glass tube, rated 32 V; carry 110%, open at 135% in 1 hour.

AGW	1, 2½, 3, 4	$1.20	$10.00
AGW	5, 6, 7½, 15, 20, 30	.88	7.40

1/4 x 1 inch FUSES

FAST ACTING FUSES



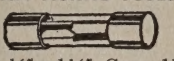
Glass tube, ¼" x 1". Carry 100%, open at 200% in 5 seconds. 1/500 to ½ amp sizes have bridge construction; all others straight-through element. UL Recognized.

Buss No.	Amperes	Volts	Net Price For Five	100
AGX	1/500	250	$9.10	$152.00
AGX	1/200	250	4.05	67.00
AGX	1/100	250	3.40	56.00
AGX	1/32	250	2.90	48.00
AGX	1/16	250	1.90	31.00
AGX	1/10, ⅛, 2/10	250	1.50	25.00
AGX	¼, ⅜, 4/10, ½, ¾	250	.85	14.00
AGX	1, 1½, 2, 3, 4	125*	.60	10.00
AGX	5, 8, 10, 15, 20	32†	.44	7.40
AGX	25, 30	32	.44	7.40
AGX	35	32	.60	10.00

*1A, 250. †5A, 125.

1/4 x 1-1/4 inch FUSES

FAST ACTING FUSES



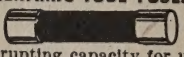
Glass tube, ¼" x 1¼". Carry 110%, open at 135% in 1 hour or less. 1/500 to 2 amp sizes will open at 200% in 5 seconds or less. 1/500 to 1/32 amp have bridge construction; all others straight-through element. UL Recognized.

AGC	1/500	250	$9.10	$152.00
AGC	1/200	250	4.05	67.00
AGC	1/100	250	3.40	56.00
AGC	1/32	250	2.90	48.00
AGC	1/16, ⅛, 15/100, 175/1000, 3/16, 1/10, 2/10	250	1.50	25.00
AGC	¼, 3/10, ⅜, 45/100, ½, 6/10, ¾	250	.85	14.00
AGC	1, 1¼, 1½, 1-6/10, 2	250	.60	10.00
AGC	2½, 3	250	.60	10.00
AGC	4	32‡	.60	10.00
MTH	4, 5, 6	250	.75	13.00
AGC	5, 6, 7½, 8, 10, 15	32‡	.44	7.40
AGC	20, 25, 30	32‡	.44	7.40
AGC	35	32‡	.60	10.00

‡Not UL Recognized.

1/4 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES

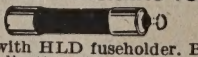


High interrupting capacity for use on circuit delivering as high as 25,000 amps at 125 V, or 10,000 amps at 250 V. ¼" x 1¼". Carry 110%, open at 135% in 1 hour. Up to 15 amp size. UL Recognized.

ABC	¼	250	$1.20	$20.00
ABC	1, 2, 3	250	1.20	20.00
ABC	5, 6, 8, 10	250	1.05	17.00
ABC	12, 15, 20	250	1.05	17.00
ABC	25, 30	125	1.60	27.00

1/4 x 1-1/4 inch FUSES

VISUAL INDICATING FUSES



For use with HLD fuseholder. Bright red dot on indicating pin extends from end of fuse when fuse is open even after power is off. Rated 125 V or less, carries 110%, opens at 135% in 1 hour or less. Only ¼" x 1¼".

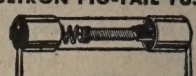
Buss No.	Amperes	Net Price For Five	100
GBA	¾	$4.15	$69.00
GBA	1, 1½, 2, 3, 4, 5	3.00	50.00

Fiber tube with silver plated indicating pin which extends when fuse is blown. May be used to actuate a signal when used in HKA fuseholder or Signal Fuse Block. Dual tube construction in sizes larger than 5 amps (cannot be used in HKA fuseholder). Voltage, 125 volts, except 8 amp and over which are 32 volts. Size, ¼" x 1¼".

GLD	¾	$3.65	$61.00
	1, 1½, 2, 3, 4, 5	2.80	47.00
	6, 8, 10, 12, 15, 20	4.00	67.00

1/4 x 1-1/4 inch FUSES

FUSETRON PIG-TAIL FUSES



Body ¼" x 1¼", #20 tinned leads, 1¼". 1/100 to 2-8/10 same as MDL type; 3 to 7 amps same as MDX type. UL Recognized.

Buss No.	Amperes	Volts	Net Price For Five	100
MDV	1/100, 1/32	250	$3.00	$50.00
MDV	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10, 1	250	2.35	39.00
MDV	1¼, 1½, 1-6/10, 1-8/10, 2, 2¼	125	2.25	38.00
MDV	2½, 2-8/10, 3, 3-2/10, 4, 5, 6¼, 7	125	1.90	32.00

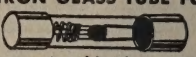
PIG-TAIL FUSES

Glass tube ¼" x 1¼" with 1¼" leads of #20 tinned wire. Carry 110%, open 135% in 1 hour. 250 V. UL Recognized.

Buss No.	Amperes	Net Price For Five	100
GJV	1/16	$2.35	$39.00
GJV	1/8	2.35	39.00
GJV	¼, 3/10, ⅜, ½, ¾	1.50	25.00
GJV	1, 1½, 1¾, 2, 3	1.15	19.00
GJV	4, 5, 6, 7	1.20	20.00

1/4 x 1-1/4 inch FUSES

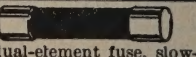
FUSETRON GLASS TUBE FUSES



Dual-element slow-blowing type, ¼" x 1¼". Fuse link operates only on very high overloads or short-circuits; thermal cutout functions on low overloads (cannot operate quickly on any load, thus providing long time-lag). Carry 110%, open at 135% in 1 hour. MDL 1/100 to 2-8/10 amp and MDX 3 to 7 amp sizes, UL Recognized. MDL type has longer time-lag than MDX type.

Buss No.	Amperes	Volts	Net Price For Five	100
MDL	1/100, 1/32	250	$2.50	$42.00
MDL	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, 7/10, ¾, 8/10, 1		1.90	32.00
MDX	1¼, 1½, 1-6/10, 2	250	2.00	33.00
MDL	1-2/10, 1¼, 1½, 1-6/10, 1-8/10, 2	125	1.75	30.00
MDL	2½, 2-8/10	125	1.50	25.00
MDX	3, 3-2/10, 4, 5	125	1.50	25.00
MDX	6¼, 7	125	1.70	28.00
MDL	3, 3-2/10, 4, 5, 6¼, 8, 10, 15, 20, 25, 30	32	1.50	25.00

1/4 x 1-1/4 inch FUSES



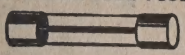
Fusetron dual-element fuse, slow-blowing type, ceramic tube. Carry 110%, open at 135% in one hour.

MDA	1/100, 1/32	250	$3.20	$53.00
MDA	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10, 1, 1¼, 1½, 1-6/10, 2	250	2.65	44.00
MDA	2½, 2-8/10, 3, 3-2/10, 4, 5, 6¼, 7, 8, 10, 15, 20	250	1.90	32.00
MDA	25, 30	125	1.90	32.00

Buss® and Fusetron® Fuses, Holders

9/32 x 1-1/4 inch FUSES

AGS GLASS TUBE FUSES

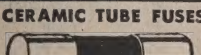


Test specification; carry, 110%, open at 135% within 1 hour except 35 and 40 amp units which open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit. **Note:** These units in sizes larger than 30 amps are not recommended for use in fuse clips or fuseholders as clips will not carry the high currents.

Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
AGS	1/8	250	$2.80	$47.00
AGS	1/4	250	2.05	34.00
AGS	1/2, 1	250	1.05	17.00
AGS	1, 2, 2½, 3	250	1.05	17.00
AGS	5, 10, 15, 20, 25, 30	32	.80	13.00
AGS	35, 40, 50	32	.95	16.00

9/32 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES



Carry at 110%, open at 135% in one hour; 30 and 40 amp units open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit.

ABS	1, 2, 3	250	$1.95	$33.00
ABS	5, 8, 10, 15, 20	250	1.90	31.00
ABS	25, 30	125	1.90	31.00
ABS	35, 40	32	1.95	33.00

9/32 x 1-1/4 inch FUSES

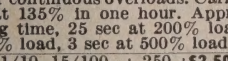
FUSETRON DUAL-ELEMENT FUSES

Glass tube, slow-blowing. Avoids needless blows from starting currents or surges, yet provides protection against short circuits or continuous overloads. Carry 110%, open at 135% in one hour. Approximate blowing time, 25 sec at 200% load, 8 sec at 300% load, 3 sec at 500% load.

MDM	1/10, 15/100, 2/10, ¼, 3/10, 4/10, ½, 6/10, ¾, 8/10, 1	250	$2.50	$42.00
MDM	1¼, 1-6/10, 2	125	2.50	42.00
MDM	2½, 2-8/10, 3	125	2.00	33.00
MDM	3-2/10, 4, 5, 6¼, 8, 10, 15, 20, 25, 30, 35, 40	32	2.00	33.00

13/32 x 1-3/8 inch FUSES

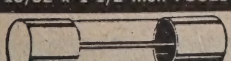
"QUICK-BLOWING" 600 V FUSES



Designed to protect control circuits, fluorescent lighting circuits or similar uses where quick-blowing characteristics are desired. Use HPC-L fuseholder or 3845 fuse block. UL Recognized. Fiber tube 1 3/32" x 1 3/8".

Buss No.	Amperes	Net Price For Ten	Net Price For 100
BBS	4/10, ¾, 8/10	$3.60	$30.00
BBS	1, 2, 3, 4, 5	3.50	29.00

13/32 x 1-1/2 inch FUSES

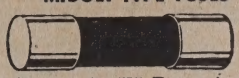


Glass tube; carry 110%, open at 135% in one hour. Below 4 amp sizes UL Recog.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
AGU	1, 2, 3, 4	250	$2.30	$19.00
AGU	5, 10, 15, 20, 25, 30, 35, 40, 50, 60	32	2.30	19.00

13/32 x 1-1/2 inch FUSES

MIDGET TYPE FUSES



Up to 15 amp size UL Recognized.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
BAF	1, 3, 6, 10	250	$2.10	$17.00
BAF	15, 20, 25, 30	125	2.10	17.00

INDICATING, LAMINATED TUBE FUSES

Red button on indicating pin extends from end of fuse when fuse is blown. Units are built in accordance with Navy Specifications. These units may be used in Buss HPC-C fuseholders. Voltage, (1-15 amps), 250, others, 125 V.

MIN	1, 2, 3, 5, 10, 15, 20, 25, 30	$6.20	$52.00

SIGNAL OR VISUAL INDICATING FUSES

MIC fuses have silver-plated indicating pin. Pin may be used as visual indicator or may be used to actuate a signal. **MIJ** fuses are similar to MIC types except they have been specially designed for complex circuitry as in computers. Voltage, 250 except 20 amps and over which are 32 V.

MIC	1, 2, 3, 5, 10, 15, 20, 25, 30	$7.00	$58.00
MIJ	1, 2, 3, 5, 10, 15, 20, 25, 30	8.30	69.00

FUSETRON FIBER TUBE FUSES

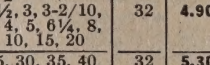
Dual-element slow-blowing type, 13/32" x 1½" overall. Fuse link operates only on very high overloads or short circuits; thermal cutout functions on low overloads (cannot operate quickly on any overload, thus providing longer time lag). Carry 110%, open at 135% in 1 hour. 125 and 250 volt sizes UL Recognized.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
FNM	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9, 10	250	$5.90	$49.00
FNM	12, 15	125	5.90	49.00
FNM	20, 25, 30	32	5.90	49.00

MDR same as series FNM above, except glass tube instead of fiber tube.

MDR	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10	250	$5.80	$49.00
MDR	1, 1½, 1-6/10, 2	125	5.80	49.00
MDR	2¼, 3, 3-2/10, 4, 5, 6¼, 8, 10, 15, 20	32	4.90	41.00
MDR	25, 30, 35, 40	32	5.30	44.00

INDICATING FUSETRON FUSES

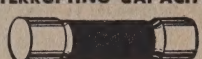


Similar to FNM types. Indicating pin extends from fuse when fuse blows. Use in signal fuse block or HPC-C fuseholder (larger than 10 amps units cannot be used in HPC-C). UL Recognized in 0–15 amp sizes.

FNA	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6, 6¼, 7, 8, 10		$11.00	$92.00
FNA	12, 15, 20, 25, 30		12.30	102.00

13/32 x 1-1/2 inch FUSES

HIGH INTERRUPTING CAPACITY FUSES



Type KTK—For use on circuits as high as 100,000 amps at 600 volts or less, AC only. Glass fiber melamine tubes and sand filler surrounding a silver fuse element. **Amperes:** 1/10, ⅛, 2/10, ¼, 3/10, ½, ¾, 1, 1½, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30. Lot of 10, Net **$15.90** Lot 100, Net **$132.00**

TYPE C AND N FUSES, HOLDERS

C, N HC, HN

Matched glass fuses and fuseholders for specific size ranges. **Type N** fuses are dual-element time-delay or slow-blowing type. 0 to 1½ amp sizes, ¼" x 1¼"; 1-3/10 to 7 amp sizes, ¼" x 1 1/16". **Type C** fuses are single-element quick-blowing type. 0 to 3½ amp sizes, ¼" x 1 1/16"; 3-6/10 to 10 amp sizes, ¼" x 1¼". Holders rated at 250 volts.

TYPE N FUSES

Amperes	Holder No. HN-	Volts	Net Price For Five	Net Price For 100
1/100, 1/32, 1/16, 1/10, 15/100, 2/10, ¼, 3/10	0 to 3/10	250	$2.50 1.90	$42.00 32.00
4/10	3/10 to ½	250	1.90	32.00
½	3/10 to ½	250	1.90	32.00
6/10	½ to ¾	250	1.90	32.00
7/10, ¾	½ to ¾	250	1.90	32.00
8/10, 1	¾ to 1¼	250	1.90	32.00
1¼	¾ to 1¼	250	1.75	30.00
1-6/10	1-3/10 to	125	1.75	30.00
1¾	1¾	125	1.75	30.00
2	1¾ to 2½	125	1.75	30.00
2½	1¾ to 2½	125	1.75	30.00
2-8/10	2½ to 3½	125	1.75	30.00
3-2/10	2½ to 3½	125	1.75	30.00
3½	2½ to 3½	125	1.75	30.00
4	3½ to 5	125	1.75	30.00
5	3½ to 5	125	1.75	30.00
6¼	5 to 7	125	1.75	30.00
7	5 to 7	125	1.75	30.00

TYPE C FUSES

Amperes	Holder No. HC-	Volts	Net Price For Five	Net Price For 100
1/32	0 to 3/10	250	$2.80	$47.00
1/16	0 to 3/10	250	1.90	31.00
1/8, 3/16	0 to 3/10	250	1.50	25.00
¼	0 to 3/10	250	1.15	19.00
3/10	0 to 3/10	250	1.15	19.00
⅜	3/10 to ½	250	1.15	19.00
½	3/10 to ½	250	1.15	19.00
¾	½ to ¾	250	1.15	19.00
1	¾ to 1¼	250	.70	12.00
1¼	¾ to 1¼	250	.70	12.00
1½	1¼ to 1¾	250	.70	12.00
1¾	1¼ to 1¾	250	.70	12.00
2	1¾ to 2½	250	.70	12.00
2½	1¾ to 2½	250	.70	12.00
3	2½ to 3½	250	.70	12.00
3½	2½ to 3½	250	.80	13.00
4	3-6/10 to 5	250	.80	13.00
5	3-6/10 to 5	250	.80	13.00
6	5 to 7	250	.80	13.00
7	5 to 7	250	.80	13.00
8	7 to 10	250	1.20	20.00
10	7 to 10	250	1.20	20.00

Type HC and Type HN Fuseholders—All sizes (specify). Net for 10 . . . **$ 2.80**
Net for 100 . . . . . **24.00**

HIGH VOLTAGE FUSES

Designed for protection of circuits up to 20 kW on DC and 30 kVA on AC.

Buss No.	Amperes	V	Net Price For Ten	Net Price For 100
HVA	3/16, 1/8, ¾, 1, 1½, 2	1000	$ 4.20	$35.00
HVB	½, ¾, 1, 1½, 2	2500	5.90	49.00
HVJ	1/16, 1/8, ¼, 3/8, ½, ¾, 1, 1½, 2	5000	10.80	90.00
HVL	1/16, 1/8, ¼, 3/8, ½, ¾, 1, 1½, 2	10K	20.70	173.00

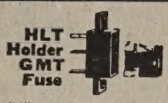
Buss® and Fusetron® Fuses, Holders

SFE STANDARD FUSES

Different amperages are different lengths, making it impossible to over-fuse. Glass tube, ¼" dia. Carry 110%, open at 135% in 1 hour. Made to SAE specifications and UL Recognized, 32 volts or less.

Buss No.	Amperes	Lgth. In.	Net Price For Five	100
SFE	4	5/8	$0.43	$8.00
SFE	6	3/4	.43	8.00
SFE	7½, 9	7/8	.43	8.00
SFE	14	1 1/16	.43	8.00
SFE	20	1¼	.43	8.00
SFE	30	1 7/16	.55	9.00

SIGNAL-INDICATING ALARM ACTIVATING TYPE UNIT

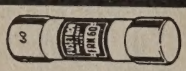


Takes only ¼" x 1 15/16" space. Color indicator. Rated 300 V or less; 100% for 10 min.; open at 150% within 5 min.

Buss No.	Amperes and Color of Indicator	Net Price for Ten	100
GMT	18/100*, ¼†, ½‡, 65/100§, ¾#, 1ª, 1½ª, 2■, 3♦, 5‡, 7½‡, 10**	$6.50	$55.00
HLT	Holder, fits all GMT	7.00	58.00

Color of Indicator: *Yellow; †violet; ‡red; §black; #brown; ■gray; ªwhite; ■orange; ♦blue; ‡green; ‡black-white; **red-white.

FUSETRON DUAL-ELEMENT FUSES



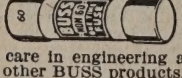
Long time-lag prevents useless shut-downs caused by ordinary fuses opening on starting currents or other harmless overloads, yet protects against short-circuits. On normal installations will guard motors against burnout from overloads or single phasing. UL Recognized for motor running and circuit protection up to 250 volts.

Buss No.	Amperes	Net Price For Ten	100
FRN	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9	$6.00	$50.00
FRN	10, 12, 15, 17½, 20, 25, 30	6.60	47.00
FRN	35, 40, 45, 50, 60	10.20	85.00

FRN	70, 80, 90, 100	$23.00	$191.00

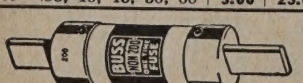
BUSS ONE-TIME FUSES

FAST ACTING FUSE



Get same care in engineering and manufacture as other BUSS products. Each can be depended upon to operate as intended under all service conditions. UL Recognized. For voltages up to 250.

Buss No.	Amperes	Net Price For Ten	100
NON	1, 3, 6, 10, 15, 20, 25, 30	$1.60	14.50
NON	35, 40, 45, 50, 60	3.00	25.00



NON	70, 80, 90, 100	$12.50	$105.00

GRASSHOPPER FUSES

Alarm activating and signal indicating. Length: 1 43/64", except 35D (1 5/8"), 35E (1 63/64").

Buss No.	Amps	Blowing Time Amp	Sec.	Net Price For Ten	100
35A*	1½ #	2	90	$4.90	$41.00
35B*	1⅘**	2	90	4.90	41.00
35B*	2**	3	180	4.90	41.00
35C*	2#	3	180	4.90	41.00
35D*	1⅘**	2	90	8.80	74.00
35E*	3**	4	300	4.90	41.00
35F*	½ #	¾	9	4.90	41.00
35G*	3**	4½	300	4.90	41.00
35H*	5**	6½	300	4.90	41.00
35J†	½ #	¾	90	6.50	55.00
35K†	1½ #	2	180	8.80	74.00
35L†	2#	3	180	8.80	74.00
35M†	3**	4½	300	8.30	69.00
35N†	5**	6½	300	8.30	69.00
35P†	¾ #	1⅛	90	6.20	52.00
35R*	18/100#	.270	90	6.20	52.00
35S†	¼ #	.375	90	6.50	55.00
35T*	65/100#	1.1	180	6.50	55.00

Volts: *90 or less. †160 or less. Mounting Screw: #No. 10. **No. 6.

TRON® RECTIFIER FUSES

For Protection of Semiconductor Rectifiers and Similar Applications

Especially designed for protection of semiconductor rectifiers, thyristors and other solid state devices. High interrupting capacity and very fast clearing to restrict let-through current and energy to very low values. Give safe short-circuit protection for systems with fault current to 200 kA at 600 volts or less. Carry 100%, open at 1000 secs between 150% and 180% of rating; open within 1 sec at 250% of rating.

GBB SERIES

Size, 1¼" lg. x ¼" dia.

Buss No.	Amperes	Max. Volts	Net Each
GBB	¼, 1, 1¼, 2, 3, 4, 5, 6, 7, 8, 9, 10	130	$1.05
GBB	12, 15, 20, 25, 30	65	1.05

KAA SERIES

Size, 1½" lg. x 13/32" dia. Also available up to 1000 amps; prices on request.

KAA	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$1.51

KAW SERIES

Size, 1½" lg. x 13/32" dia.

KAW	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$1.54

KAB SERIES

Size, 9/16" dia. x 2" lg., values to 30 amps; 17/32" dia. x 3 1/8" lg., 70 amps to 200 amps. Also available up to 800 amps; prices on request.

KAB	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	250	$1.72
KAB	70, 80, 90, 100, 125, 150, 175, 200	250	7.73

KAC SERIES

Size, 2 7/8" lg. x 9/16" dia. Also available up to 800 amps; prices on request.

KAC	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	600	$2.55

BLOCKS FOR TRON® RECTIFIER FUSES

Buss No.	No. Poles	For Fuse* No.	Amp	Base Size, In.	Net Each
4515	1	KAA		¾ x2 9/16	$0.88
4525	2	or	1–30	1 5/16 x2 9/16	1.70
4535	3	KAW		2 1/16 x2 9/16	2.51
4386	1			¾ x3 ¼	1.30
4287	2	KAB	1–30	2 x3 ½	2.51
3959	3			3 x3 ½	3.94
3556	1	KAB	70–	1½ x3 ⅛	2.85
3521	3		100	5 23/32 x3 ⅛	8.57
3595	1	KAC	1–30	1¼ x3 ½	2.10
3528	2			2½ x3 ½	4.16

*GBB series, use any BUSS block for ¼ x 1¼ in. fuses.

BLOCKS FOR 1/4 x 5/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Each
4511	1	Screw	$0.58
4521	2	Screw	1.15
4531	3	Screw	1.75

BLOCKS FOR 1/4 x 7/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Each
4393	1	None	$0.32
4398	1	Solder	.32
4399	1	Screw	.49
4401	2	Solder	.55
4402	2	Screw	.92
4403	3	Solder	.86
4404	3	Screw	1.37
4485	2	Solder	.55
4517	1	Screw	.58
4520	1	Solder	.32
4537	3	Screw	1.75

BLOCKS FOR 1/4 x 1 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Each
3828-1	1	Solder	$0.26
3828-2	2	Solder	.44
3828-3	3	Solder	.70
3828-4	4	Solder	.86
3828-5	5	Solder	1.08
3828-6	6	Solder	1.28
3828-7	7	Solder	1.44
3828-8	8	Solder	1.61
3828-9	9	Solder	1.85
3828-10	10	Solder	2.05
3828-11	11	Solder	2.25
3828-12	12	Solder	2.47
4393	1	None	.32
4398	1	Solder	.32
4399	1	Screw	.49
4401	2	Solder	.55
4402	2	Screw	.92
4403	3	Solder	.86
4404	3	Screw	1.37
4485	2	Solder	.55
4514	1	Screw	.58
4520	1	Solder	.32
4524	2	Screw	1.15
4534	3	Screw	1.75

BLOCKS FOR 1/4 x 1-1/4 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Each
4405	1	Solder	$0.32
4408	2	Solder	.55
4411	3	Solder	.86
4512	1	Screw	.58
4522	2	Screw	1.15
4532	3	Screw	1.75

Buss® and Fusetron® Fuses, Holders

BLOCKS FOR ¼ x 1¼ INCH FUSES (CONT'D)

All types have molded black phenolic bases; spring clips are Albaloy plated for strong grip and high corrosion resistance.

SOLDER TERMINAL TYPE ON SMALL BASE

Buss No.	No. of Poles	Base Size, Inches	Net Each
3823-1	1	½ x 1⅝	$0.26
3823-2	2	1⅛ x 1⅝	.44
3823-3	3	1¾ x 1⅝	.70
3823-4	4	2⅜ x 1⅝	.86
3823-5	5	3 x 1⅝	1.08
3823-6	6	3⅝ x 1⅝	1.28
3823-7	7	4¼ x 1⅝	1.44
3823-8	8	4⅞ x 1⅝	1.61
3823-9	9	5½ x 1⅝	1.85
3823-10	10	6⅛ x 1⅝	2.05
3823-11	11	6¾ x 1⅝	2.25
3823-12	12	7⅜ x 1⅝	2.47

SCREW TERMINAL TYPE ON FULL BASE

3833-1	1	2 5/32 x 2⅜	$0.46
3833-2	2	1 11/16 x 2⅜	.94
3833-3	3	2 19/32 x 2⅜	1.44
3833-4	4	3⅓ x 2⅜	1.91
3833-5	5	4 13/16 x 2⅜	2.39
3833-6	6	5 11/16 x 2⅜	2.87
3833-7	7	6 7/32 x 2⅜	3.33
3833-8	8	7⅛ x 2⅜	3.81
3833-9	9	8 1/32 x 2⅜	4.31
3833-10	10	8 15/16 x 2⅜	4.80
3833-11	11	9 27/32 x 2⅜	5.26
3833-12	12	10¾ x 2⅜	5.72

BLOCKS FOR 9/32 x 1-1/4 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Each
4413	1	Solder	$0.49
4414	1	Solder	.49
4415	1	Screw	.83
4416	2	Solder	.92
4417	2	Solder	.92
4418	2	Screw	1.45
4419	3	Solder	1.37
4420	3	Screw	2.15
4481	1	Screw	.83
4482	2	Screw	1.45
4483	3	Screw	2.15

BLOCKS FOR 13/32 x 1-3/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Each
3845	1	Screw	$1.01

BLOCKS FOR 13/32 x 1-1/2 inch FUSES

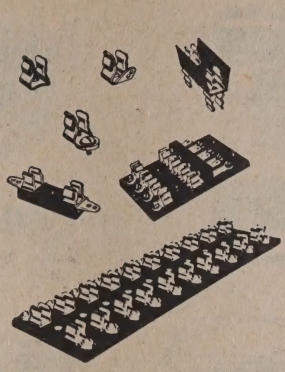
Buss No.	No. of Poles	Terminal Type	Net Each
2807	1	Screw	$0.68
2808	2	Screw	1.12
2809	3	Screw	1.51
2810	1	Pressure lug	1.43
2811	2	Pressure lug	2.80
2812	3	Pressure lug	4.21
3792	1	Screw	1.01
4421	1	Solder	.68
4422	1	Solder	.68
4423	1	Screw	.75
4424	2	Solder	1.37
4426	2	Solder	1.37
4427	2	Screw	1.45
4428	3	Solder	1.99
4429	3	Screw	2.15
4439	3	Screw	2.93
4415	1	Screw	.83
4525	2	Screw	1.70
4535	3	Screw	2.51
4575	2	Screw	1.80

POLARIZED BLOCKS FOR SILICON RECTIFIERS

Buss No.	No. of Poles	Terminal Type	Net Each
3794	1	Solder	$0.32
3795	2	Solder	.55

BLOCKS FOR HIGH VOLTAGE FUSES

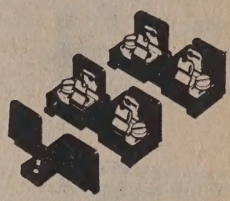
Buss No.	No. of Poles	For Fuse	Net Each
4528	1	Buss HVA	$1.60
4529	1	Buss HVB	2.35
4530	1	Buss HVJ	3.28



Fuse Clips and Blocks

Plug Fuses

Fustat Fuses



Add-on Fuse Block

BLOCKS FOR 13/32 x 1-1/2 inch FUSES

SIGNAL FUSE BLOCK

Base dimensions, 2.688" x 4.375". For use with BUSS FAN and FNJ indicating fuses.

Buss No.	No. of Poles	Terminal Type	Net Each
3839	4	Screw	$6.53

ADD-ON FUSE BLOCKS

Make fuse block of any number of poles. Each single pole nests against next one; new poles can be added at any time. Order one end barrier plus any number of poles. Marking strip available to identify poles. Rated 30 A at 600 V. UL Recognized.

Buss No.	Description	Terminal Type	Net Ea.
3742	End barrier only	.....	$0.19
3743	One pole block only	Screw	1.35
.....	Marking strip, 50"	.....	.62

BUSS FUSE CLIPS

Buss No.	Description	For Fuse Dia., In.	Net Each
3434	Insul. twin clip	¼	$0.25
5681-15	Clip	¼	.049
5678-14	Clip and terminal	¼	.058
4431	Clip assembly	¼	.14
4432	Clip assembly	¼	.17
5682-01	Clip	¼	.088
5682-41	Clip	¼	.045
5682-44	Clip	¼	.045
4567	Clip assembly	¼	.14
4583	Clip assembly	¼	.16
5682-02	Clip	¼	.088
5672-11	Clip	9/32	.073
5674-41	Clip	9/32	.073
4560	Clip assembly	9/32	.23
4585	Clip assembly	9/32	.32
5674-01	Clip	9/32	.15
5956-16	Clip	13/32	.073
5960-61	Clip	13/32	.09
5960-07	Clip	13/32	.23
5960-63	Clip	13/32	.09
4561	Clip assembly	13/32	.23
4586	Clip assembly	13/32	.40
5960-09	Clip	13/32	.23

CLEAR WINDOW PLUG FUSE

Shockproof fuses are insulated with porcelain-like high voltage power lines. Top cap protects fingers from shock and cuts. Always fit fuseholders. UL Recognized.

Buss No.	Amperes	Net Price for Five	Net Price for 100
W	1, 2, 3, 5, 6, 8, 10	$0.68	$11.50
W	15, 20, 25, 30	.63	10.50

FUSETRON DUAL-ELEMENT PLUG FUSES

Time-delay fuses recommended by N.E. Code. Will not blow under motor-starting or other current surges, yet provides full protection against heavy currents or short circuits. Rated up to 125 V. UL Recognized.

Buss No.	Amperes	Net Price for Four	Net Price for 100
T	3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9, 10, 12, 14	$1.12	$24.00
T	15, 20, 25, 30	.92	20.00

FUSTAT FUSES AND ADAPTERS

Time-delay fuses with type S base recommended by N.E. Code. Prevents overfusing when used with proper size adapter. Rated up to 125 V. UL Recognized. Adapters not included with Fustat fuses; order separately and specify size.

Fustat Fuses, Amps	Adapter	Fustat Fuses, Amps	Adapter
S3/10	SA1*	S3½	SA4
S4/10	SA1*	S4	SA4
S½	SA1*	S4½	SA5§
S6/10	SA1*	S5	SA5§
S8/10	SA1*	S5-6/10	SA6¼#
S1	SA1*	S6¼	SA6¼#
S1⅛	SA1¼*	S7	SA8
S1¼	SA1¼*	S8	SA8
S1-4/10	SA1-6/10*	S9	SA10•
S1-6/10	SA1-6/10*	S10	SA10•
S1-8/10	SA2	S12	SA15▲
S2	SA2	S14	SA15▲
S2¼	SA2½†	S15	SA15▲
S2½	SA2½†	S20	SA20
S2-8/10	SA3-2/10‡	S25	SA30■
S3-2/10	SA3-2/10‡	S30	SA30■

*Adapter also takes all smaller sizes. †Also takes 2, 1-8/10 sizes. ‡Also takes 2½, 2¼, 2, 1-8/10 sizes. §Also takes 4, 3½ sizes. #Also takes 5, 4½, 4, 3½ sizes. •Also takes 8, 7 sizes. ▲Also takes 10, 9, 8, 7 sizes. ■Also takes 20 size.

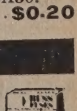
Buss Fustats—3/10 through 14 amp sizes. Net Each..... **$0.28**

Buss Fustats—15 through 30 amp sizes. Net Each..... **$0.23**

Fustat Adapters—SA1 through SA30. Net Each..... **$0.20**

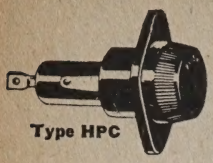
FUSE ASSORTMENT

Sturdy metal stand holds 130 fuses (5 fuses per box, 26 sizes in individual 5" boxes). Inventory feature shows what fuses need reordering.



Buss No. 130—Net... **$27.85**

Buss® Fuseholders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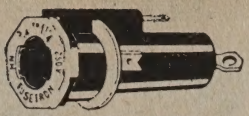
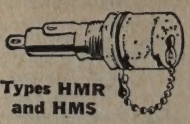

Types HC and HN

Type HKL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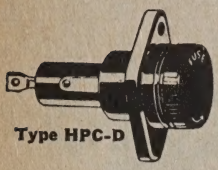
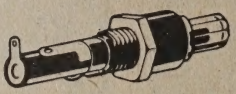
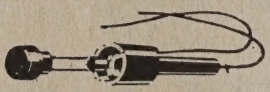

Type HPC-D

Series HJ and HK


Type HKA

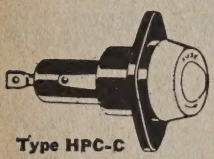
Series HR

Series HH and HI


Types HLQ and HLR

Series HCM

Type HLD No. 5487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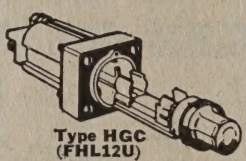
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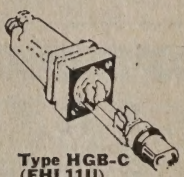
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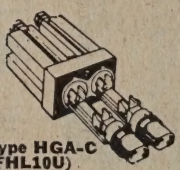
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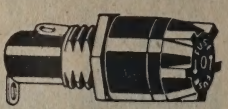

Type HTA

Fuse voltage on lamp indicating holders shows operating range for lamp indication.

Fuse voltage on non-indicating holders shows maximum voltage of fuses commercially available that will fit holders.

LAMP-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HJL	Panel	100–250	20 A	$2.68

SIGNAL ACTIVATING-LAMP INDICATING FOR 1/4 x 1-1/4 inch INDICATING FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HKA	Panel	125 or less	5 A	$5.81

LAMP INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HGA	Panel	100–250	30 A	$7.00
HGA-C	Panel	100–250	30 A	7.70
HGB	Panel	100–250	30 A	5.88
HGB-C	Panel	100–250	30 A	6.46
HKL	Panel	100–250	20 A	2.60
HKL-X	Panel	100–250	20 A	2.60
HKR	Panel	24–32	20 A	4.20
HKT	Panel	10–14	20 A	4.20
HKU	Panel	4–6	20 A	4.20
HKX	Panel	24–32	20 A	4.20

VISUAL INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HLD	Panel	125 or less	30 A	$0.70
5487	Knob assembly for HLD			.35

SHIELDED NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HMS	Panel	250 or less	30 A	$6.98

NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HDI	Inline	250 or less	15 A	$0.25
HHI	Inline	250 or less	15 A	.38
HJM	Panel	125 or less	30 A	.58
HJM-CC	Panel	125 or less	30 A	.58
HJM-H	Panel	125 or less	30 A	.64
9969	Spring nut for panel mounting inline holder			.049

SHIELDED NON-INDICATING FOR 1/4 x 1-1/4 INCH FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HMR	Panel	250 or less	30 A	$6.98

NON-INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HCM	Panel	250 or less	18 A	$0.91
HCM-H	Panel	250 or less	18 A	.98
HDJ	Inline	250 or less	15 A	.25
HHJ	Inline	250 or less	15 A	.38
HKP	Panel	250 or less	30 A	.58
HKP-CC	Panel	250 or less	30 A	.58
HKP-H	Panel	250 or less	30 A	.64
HLF	Panel	250 or less	30 A	.58
HMB	Panel	250 or less	30 A	.58
HTA	Panel	250 or less	15 A	.58
9969	Spring nut for panel mounting inline holders			.049
HMJ	HDJ holder w/SFE-20 fuse and wire leads			.49
HRJ	HHJ holder w/SFE-20 fuse and wire leads			.60

NON-INDICATING FOR 9/32 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HCM	Panel	250 or less	18 A	$0.91
HCM-H	Panel	250 or less	18 A	.98

VISUAL INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HPC-C	Panel	250 or less	30 A	$1.24

LAMP INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HGC	Panel	200–500	30 A	$7.40

NON-INDICATING FOR 13/32 x 1-3/8 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HPC-L	Panel	600 or less	5 A	$1.00

NON-INDICATING FOR 13/32 x 1-1/2 inch FUSES

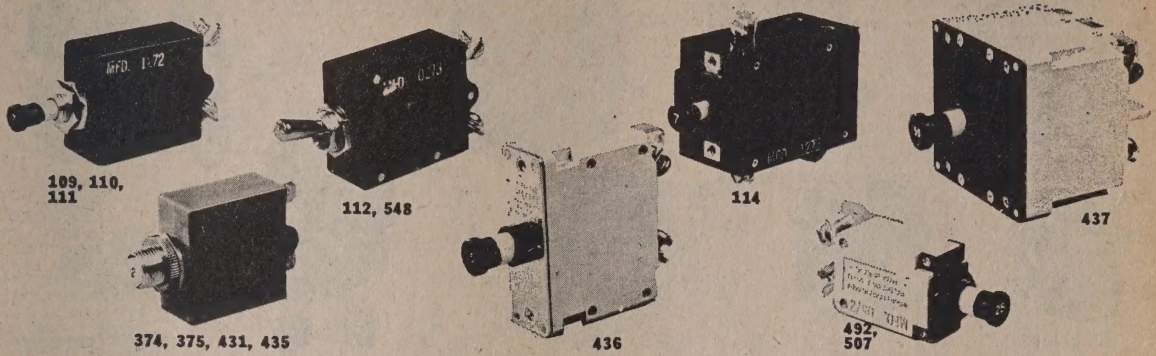
Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Each
HPC	Panel	250 or less	30 A	$1.00
HPC-D	Panel	250 or less	30 A	2.03

OTHER STANDARD AND SPECIAL FUSES, BLOCKS AND HOLDERS

If the fuses, fuse blocks and holders shown do not fit your requirements ask for information on other types. Fuses and fuse mountings to meet JAN and Military specifications also available. If you have a special problem in protection, send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

WOOD ELECTRIC CIRCUIT BREAKERS

THERMAL CIRCUIT BREAKERS



Thermal AC-DC circuit breakers pass safe surge currents and momentary overloads, but trip on dangerous overloads and short circuits. Breakers contain trip-free mechanism which allows contacts to open on overload even if manually held in reset position. Pushbutton models feature visible trip indication in the form of a white band which appears when the reset button extends on overload. Contacts have wiping action on make and break to help insure positive, clean contact. All metallic latching materials are heat treated and plated for long life.

MODELS 109 AND 110

Models 109 and 110 thermal circuit breakers feature a white band on the body of the reset button which becomes visible upon breaker trip. Maximum operating voltages are 50 VDC and 250 VAC (to 400 Hz). Interruption capacities are 3000 amps at 250 VAC and 5000 amps at 50 VDC. Use #8-32 screw terminals and mount with two ⅜-24 dress nuts. Model 109 has screw terminals situated at 90° to each other. Model 110 has screw terminals situated parallel to each other. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

Wood Model 109—Net Each **$4.85**
Wood Model 110—Net Each **5.05**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
109-205-101	5	109-220-101	20	109-240-101	40
109-507-101	7.5	109-225-101	25	109-250-101	50
109-210-101	10	109-230-101	30	109-260-101	60
109-215-101	15	109-235-101	35	110-205-102	5

MODEL 111

Model 111 thermal circuit breaker insures fast trip by employing a heater wire in close proximity to the thermal contact arm. Heat generated by overload currents flowing through the wire quickly activates the thermal contact and opens the circuit. Maximum operating voltages are 32 VDC and 250 VAC (to 400 Hz). Interruption capacity is over 100 amps at 250 VAC, and 150 amps at 32 VDC. Has #8-32 screw terminals and mounts with a single ⅜-24 dress nut. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

Wood Model 111—Net Each **$10.00**

Wood Model	Rating, Amps	Wood Model	Rating, Amps
111-201-101	1	111-203-101	3
111-202-101	2	111-204-101	4

MODELS 112 AND 548

Models 112 and 548 thermal circuit breakers feature toggle trip. Model 112 has a plain steel toggle with rating marked on the end. Model 548 has a silver toggle with no rate marking. Maximum operating voltages are 32 VDC and 250 VAC (to 400 Hz). Interruption capacity is over 3000 amps at 250 VAC and 5000 amps at 50 VDC. Use #8-32 screw terminals and mount with a single dress nut. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

Wood Model 112—Net Each **$5.20**
Wood Model 548—Net Each **6.60**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
112-205-101	5	112-220-101	20	112-240-101	40
112-507-101	7.5	112-225-101	25	112-250-101	50
112-210-101	10	112-230-101	30	548-205-106	5
112-215-101	15	112-235-101	35	548-210-106	10

MODEL 114

Model 114 thermal circuit breaker features auxiliary SPDT switch electrically isolated but mechanically connected to the breaker circuit. SPDT contacts rated 5 amps at 125 VAC or 1 amp at 50 VDC. Maximum operating voltages are 32 VDC and 250 VAC (to 400 Hz). Interruption capacity is over 200 amps at 250 VAC and 300 amps at 32 VDC. Mounts with two #6-32 panel-mount screws. Termination of breaker contacts is to two #6-32 screw terminals; of the auxiliary switch, to three #53 taper receptacles. Size, .930″ w. x 1.875″ d. x 1.344″ h. Weight, less than 3 oz. UL Recognized, File E39205, except 114-209-101.

Wood Model 114—Net Each **$12.60**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
114-201-101	1	114-206-101	6	114-215-101	15
114-202-101	2	114-207-101	7	114-220-101	20
114-203-101	3	114-209-101	9	114-225-101	25
114-205-101	5	114-210-101	10		

MODELS 374, 375, 431 AND 435

Thermal circuit breakers feature recessed reset button which cannot be manually pulled out to disconnect the circuit. The button has a red band around it for visible trip indication. Maximum voltage ratings are 32 VAC and 250 VAC (to 400 Hz). Interruption capacity: Models 374 and 431, over 1000% of rated load; Models 375 and 435, 1,000 amps, minimum. Quick-connect terminals on Models 374 and 375; #6-32 screw terminals on Models 431 and 435. Mounting is with knurled thumb nut on bushing. Size, .660″ w. x 1.375″ d. x 1.375″ h. Weight, less than 1.5 oz. Models 374 and 375 (except 8, 12, 20, 30 and 35 amp units) are UL Recognized under File E39205 and listed under CSA File 30671.

Wood Model 374—Net Each **$2.80**
Wood Model 375—Net Each **1.80**
Wood Model 431—Net Each **4.05**
Wood Model 435—Net Each **2.90**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
374-201-101	1	375-215-101	15	435-206-101	6
374-202-101	2	375-220-101	20	435-207-101	7
374-203-101	3	375-225-101	25	435-208-101	8
374-204-101	4	375-230-101	30	435-210-101	10
375-205-101	5	375-235-101	35	435-212-101	12
375-206-101	6	431-201-101	1	435-215-101	15
375-207-101	7	431-202-101	2	435-220-101	20
375-208-101	8	431-203-101	3	435-225-101	25
375-210-101	10	431-204-101	4	435-230-101	30
375-212-101	12	435-205-101	5	435-235-101	35

MODEL 436

Model 436 thermal circuit breaker has a special magnet which assists during millisecond tripping of heavy overloads. Reset button has white band around it for visible trip indication. Meets MIL-C-5809 and MIL drawing MS-25017 (ASG). Maximum voltage ratings are 28 VDC and 120 VAC (to 400 Hz). Will safely interrupt over 3500 amps at 120 VAC, and 6000 amps at 28 VDC. Termination to #8-32 screw terminals; mounting is with #6-32 screws. Size, .750″ w. x 1.66″ d. x 2.189″ h. Weight, less than 3 oz.

Wood Model 436—Net Each **$9.70**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
436-205-101	5	436-220-101	20	436-240-101	40
436-507-101	7.5	436-225-101	25	436-250-101	50
436-210-101	10	436-230-101	30		
436-215-101	15	436-235-101	35		

MODEL 437

Model 437 thermal circuit breaker is a 3-phase, magnetic assist breaker with a white band around the reset button for visible trip indication. Excessive current flow in any of the three lines causes all contacts to open. Meets MIL-C-5809 and military drawing MS-21984. Maximum voltage rating: Single phase, 120 VAC; three phase, 208 VAC. Will safely interrupt over 1,000 amps at 208 VAC. 3 phase, to 400 Hz; or 2,500 amps at 120 VAC, single phase, to 400 Hz. Six 8-32 screw terminals, four 6-32 mounting screws. Size, 2.250″ w. x 2.125″ d. x 2.203″ h. Weight, less than 8 oz.

Wood Model 437—Net Each **$82.35**

Wood Model	Rating, Amps	Wood Model	Rating, Amps
437-205-101	5	437-210-101	10
437-507-101	7.5	437-215-101	15

MODELS 492 AND 507

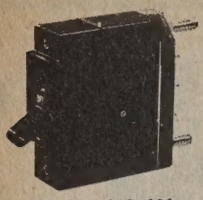
Models 492 and 507 thermal circuit breakers have a white band around the base of the reset button which becomes visible upon breaker trip. Model 507 meets MS MIL-C-5809 and MIL drawing MS25244. Model 492 has a glass melamine barrier on one side of its housing. Maximum operating voltages are 28 VDC and 120 VAC (to 400 Hz). Will safely interrupt over 3500 amps at 120 VAC and and 6000 amps at 28 VDC. Size, .750″ w. x 1.490″ d. x 1.094″ h. Weight, 2 oz.

Wood Model 492—Net Each **$10.25**
Wood Model 507—Net Each **9.35**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
492-205-102	5	492-235-102	35	507-225-101	25
492-507-102	7.5	507-205-101	5	507-230-101	30
492-210-102	10	507-507-101	7.5	507-235-101	35
492-215-102	15	507-210-101	10	507-240-101	40
492-220-102	20	507-215-101	15	507-250-101	50
492-225-102	25	507-220-101	20		

SEE NEXT PAGE FOR TRIP TIME VALUES

WOOD ELECTRIC CIRCUIT BREAKERS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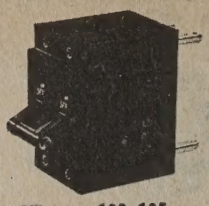
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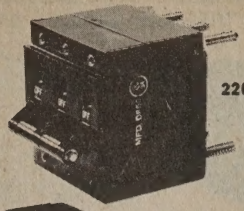
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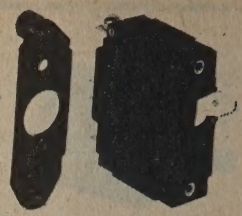
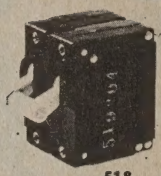

Adapter Plate

508, 511, 512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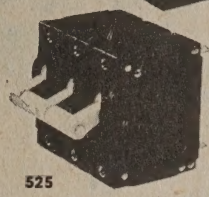
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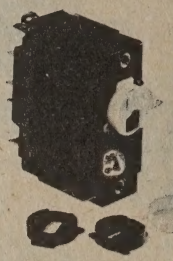


Color Caps

MAGNETIC-HYDRAULIC CIRCUIT BREAKERS

Highly versatile magnetic-hydraulic circuit breakers pass safe surge currents and momentary overloads, but trip on dangerous overloads. Trip times range from instantaneous on loads of approximately 800% of rating and higher, to 0.5 sec or more at 200% of load. (Model 130 is instantaneous, it has no time delay.) Between the must-trip values of 101%–125% of load, at DC to 60 Hz, breakers are temperature stable from −49° C or lower to +85° C. Contacts have wiping action on make and break to insure positive, clean contact. Breakers contain a trip-free mechanism which allows contacts to open on overload even if manually held in reset position. Maximum operating voltages are 50 VDC and 250 VAC. Interruption capacities are 1000 amps at 250 VAC, 2000 amps at 50 VDC. UL Recognized, File E39205, except Model 256.

MODELS 122, 124, 130, 131 SPST CIRCUIT BREAKERS

Mount with #6-32 screws. Models 122, 124 and 130 have quick-connect solder terminals. Model 131 has #10-32 stud terminals. Model 130 features auxiliary SPDT switch with quick-connect solder terminals. Max. Voltage: Models 130, 131, 50 VDC; others 250 VAC, 60 Hz. Size, .760″ w. x 2″ d. x 2.53″ h.

Wood Model 130—Net Each **$10.35**
Wood Models 122, 124, 131—Net Each **7.95**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
122-201-101	1	122-235-101	35	130-210-101	10
122-202-101	2	122-240-101	40	130-215-101	15
122-203-101	3	122-250-101	50	130-220-101	20
122-204-101	4	124-205-101	5	130-225-101	25
122-205-101	5	124-210-101	10	130-230-101	30
122-207-101	7	124-215-101	15	130-235-101	35
122-210-101	10	130-201-101	1	130-240-101	40
122-215-101	15	130-202-101	2	130-250-101	50
122-220-101	20	130-203-101	3	131-210-101	10
122-225-101	25	130-205-101	5		
122-230-101	30	130-207-101	7		

MODELS 190 AND 195 DPST CIRCUIT BREAKERS

Trip on dangerous overloads. An overload in either of the two circuits will disconnect both circuits. Breakers have #6-32 screw, #10-32 stud terminals. Max. voltage, 250 VAC, 60 Hz. Size, 1.530″ w. x 2″ d. x 2.530″ h.

Wood Models 190 and 195—Net Each **$20.60**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
190-201-101	1	190-210-101	10	190-240-101	40
190-202-101	2	190-215-101	15	190-250-101	50
190-203-101	3	190-220-101	20	195-215-101	15
190-204-101	4	190-225-101	25	195-220-101	20
190-205-101	5	190-230-101	30	195-230-101	30
190-207-101	7	190-235-101	35	195-250-101	50

MODELS 220 AND 256 3PST CIRCUIT BREAKERS

Disconnect on all three circuits if an overload occurs on any of the three circuits. Breakers have #6-32 screw mounting, and #10-32 stud terminals. Maximum Voltage: Model 220, 250 VAC, 60 Hz. Model 256, 250 VAC to 400 Hz. Size, 2.280″ w. x 2″ d. x 2.530″ h.

Wood Model 220—Net Each **$31.65**
Wood Model 256—Net Each **41.55**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
220-201-101	1	220-210-101	10	220-240-101	40
220-202-101	2	220-215-101	15	220-250-101	50
220-203-101	3	220-220-101	20	256-205-101	5
220-204-101	4	220-225-101	25	256-210-101	10
220-205-101	5	220-230-101	30	256-215-101	15
220-207-101	7	220-235-101	35	256-230-101	30

"MINI-MAG" MAGNETIC-HYDRAULIC CIRCUIT BREAKERS

"Mini-Mag" series magnetic-hydraulic circuit breakers feature SPST, DPST and 3PST models in small case sizes. Pass safe surge currents and momentary overloads, but trip on dangerous overloads. Trip times from instantaneous on loads of approx. 800% of rating and higher, to .16 sec or more at 200% of load. Between must-trip values of 101%–125% of load from DC to 60 Hz, breakers temp. stable from −40° C or lower, to +85° C. Contacts wipe on make and break. Trip-free mechanism allows contacts to open on overload even if manually held in reset position. UL Recognized, File E39205.

MODELS 508, 511 AND 512 SPST CIRCUIT BREAKERS

Mount with #6-32 screws. .032″ x .250″ quick-connect/solder terminals. Model 508 has aux SPDT switch with solder terminals. Max. Volt.: 250 VAC, 60 Hz. Size, .750″ w. x 1.500″ d. x 2″ h.

Wood Model 508—Net Each **$8.85**
Wood Models 511 and 512—Net Each **7.35**

Wood Model	Rating, Amps	Wood Model	Rating, Amps	Wood Model	Rating, Amps
508-205-101	5	511-215-101	15	512-205-101	5
511-050-101	0.5	511-220-101	20	512-207-101	7
511-201-101	1	511-225-101	25	512-210-101	10
511-202-101	2	511-230-101	30	512-215-101	15
511-203-101	3	512-050-101	0.5	512-220-101	20
511-204-101	4	512-201-101	1	512-225-101	25
511-205-101	5	512-202-101	2	512-230-101	30
511-207-101	7	512-203-101	3		
511-210-101	10	512-204-101	4		

MODEL 518 DPST CIRCUIT BREAKER

Trips on dangerous overloads. An overload in either circuit will disconnect both circuits. Breaker has #6-32 screw mtg., quick-connect solder terminals. Max. voltage, 250 VAC, 60 Hz. Size, 1.500″ sq. x 2″ h.

Wood Model 518—Net Each **$19.15**

518-050-101	0.5	518-204-101	4	518-215-101	15
518-201-101	1	518-205-101	5	518-220-101	20
518-202-101	2	518-207-101	7	518-225-101	25
518-203-101	3	518-210-101	10	518-230-101	30

MODEL 525 3PST CIRCUIT BREAKER

Disconnects all three circuits if an overload occurs in any of the circuits. Has #6-32 screw mtg., quick-connect solder terminals. Max. voltage, 250 VAC, 60 Hz. Size, 2.250″ w. x 1.500″ d. x 2″ h.

Wood Model 525—Net Each **$30.15**

525-050-101	0.5	525-204-101	4	525-215-101	15
525-201-101	1	525-205-101	5	525-220-101	20
525-202-101	2	525-207-101	7	525-225-101	25
525-203-101	3	525-210-101	10	525-230-101	30

COLOR CAPS

"Mini-Mag" colored caps available to help identify breakers in various circuits. Caps snap in place over breaker handle.

Wood Color Caps—Box of 25, Each Color, Net **$2.00**

Order No.	Cap Color	P & B Part No.	Order No.	Cap Color	P & B Part No.
9WD1	Black	23-001A			
9WD2	Brown	23-001B	9WD7	Blue	23-001G
9WD3	Red	23-001C	9WD8	Gray	23-001H
9WD4	Orange	23-001D	9WD9	White	23-001J
9WD5	Yellow	23-001E			

ADAPTER PLATE

"Mini-Mag" adapter plate allows circuit breaker to be mounted in a regular sized magnetic-hydraulic breaker panel cutout. Adapter plate screws in regular panel cutout and "Mini-Mag" mounts to it.

Wood Model #96-220, Order No. 9WD10. Net/Box of 10 ... **$2.10**

TRIP TIME VS. PERCENT OF LOAD

Wood Model	Trip Time in Seconds at 200% of Load	Trip Time in Seconds at 800% of Load	Wood Model	Trip Time in Seconds at 200% of Load	Trip Time in Seconds at 800% of Load
109-	8–20	0.22–0.77	130-	.009–.04	.0083–.038
110-	8–20	0.22–0.77	131-	2.5–8.0	.012–.067
111-	.55–1.7	.018–.08	190-	3–10	.045–.15
112-	8–20	0.22–0.77	195-	.25–0.8	.012–.04
114-	13–30	.33–0.9	220-	3–10	.045–.15
122-	3–10	.045–.15	256-	.23–.85	.01–.03
124-	.25–0.8	.012–.04	374-	9–40	1.5–3.2

Wood Model	Trip Time in Seconds at 200% of Load	Trip Time in Seconds at 800% of Load	Wood Model	Trip Time in Seconds at 200% of Load	Trip Time in Seconds at 800% of Load
375-	5.8–40	.54–.94	508-	2.3–20	.007–.15
431-	9–30	1.5–3.2	511-	2.3–20	.007–.15
435-	5.8–40	.54–.94	512-	.16–1.6	.003–.07
436-	15–55	0.6–2.2	518-	2.3–20	.007–.15
437-	15–75	.58–2.7	525-	2.3–20	.007–.15
492-	15–49	0.4–0.9	548-	8–20	.32–.78
507-	15–49	0.4–0.9			

CIRCUIT BREAKERS, MOUNTINGS AND CLIPS

MOUNTINGS, FUSE CLIPS AND FUSE HOLDERS

MOUNTINGS FOR RECTIFIERS

L.F. No.	Description	Net Each, Lots of 5	Net per 100	
			100	500
099062	Single pole, 3/16" base	$0.53	$26.50	$21.20
099063	Double pole, 3/16" base	.91	45.50	36.40
099065	Double pole, 1/16" base	.63	31.50	25.20
099065-3	1/16" Bakelite insulator	.059	2.95	2.36
099067	Single pole 1/16" base	.31	15.50	12.40
099067-3	1/16" Bakelite insulator	.041	2.05	1.64

3AG MOUNTINGS

351009	Hinged can cover, 2 pole	$3.96	$198.00	$158.50
351010	Spare, 1 pole	.53	26.50	21.20
352001	Through panel, 1 pole	.81	40.50	32.40
353001	Panel, 1 pole	1.38	69.00	55.20

3AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
356001	1 pole	$0.97	$ 48.50	$ 38.80
356002	2 pole	1.91	95.50	76.40
356003	3 pole	2.91	145.50	116.40
356004	4 pole	3.66	183.00	146.40
356005	5 pole	4.58	229.00	183.20
356006	6 pole	5.51	275.50	220.40
356007	7 pole	6.39	319.50	255.60
356008	8 pole	7.32	366.00	292.80
356009	9 pole	8.28	414.00	331.20
356010	10 pole	9.90	495.00	396.00
356011	11 pole	10.10	505.00	404.00
356012	12 pole	10.97	548.50	438.80

3AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

357001	1 pole	$0.53	$ 26.50	$ 21.20
357002	2 pole	.91	45.50	36.40
357003	3 pole	1.44	72.00	57.60
357004	4 pole	1.66	83.00	66.40
357005	5 pole	2.08	104.00	83.20
357006	6 pole	2.46	123.00	98.40
357007	7 pole	2.77	138.50	110.80
357008	8 pole	3.08	154.00	123.20
357009	9 pole	3.54	177.00	141.60
357010	10 pole	3.93	196.50	157.20
357011	11 pole	4.31	215.50	172.40
357012	12 pole	4.73	236.50	189.20

8AG MOUNTINGS

383001	1 pole*	$1.39	$69.50	$55.60
383002	1 pole†	.93	46.50	37.20

*Thru-panel. †Meter back.

8AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
387001	1 pole	$0.53	$ 26.50	$ 21.20
387002	2 pole	.91	45.50	36.40
387003	3 pole	1.44	72.00	57.60
387004	4 pole	1.66	83.00	66.40
387005	5 pole	2.08	102.00	83.20
387006	6 pole	2.46	123.00	98.40
387007	7 pole	2.77	138.50	110.80
387008	8 pole	3.08	154.00	123.20
387009	9 pole	3.54	177.00	141.60
387010	10 pole	3.93	196.50	157.20
387011	11 pole	4.31	215.50	172.40
387012	12 pole	4.73	236.50	189.20

4AG FUSE MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
456001	1 pole	$ 1.38	$ 69.00	$ 55.20
456002	2 pole	2.41	120.50	96.40
456003	3 pole	3.59	179.50	143.60
456004	4 pole	5.23	261.50	209.20
456005	5 pole	6.60	330.00	264.00
456006	6 pole	7.93	396.50	317.20
456007	7 pole	9.22	461.00	368.80
456008	8 pole	10.55	527.50	422.00
456009	9 pole	11.88	594.00	475.20
456010	10 pole	13.12	656.00	524.80
456011	11 pole	14.45	722.50	578.00
456012	12 pole	15.78	789.00	631.20

5AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

556001	1 pole	$ 1.47	$ 73.50	$ 58.80
556002	2 pole	2.84	142.00	113.60
556003	3 pole	4.19	209.50	167.60
556004	4 pole	5.76	288.00	230.40
556005	5 pole	7.08	354.00	283.20
556006	6 pole	8.52	426.00	340.80
556007	7 pole	10.06	503.00	402.40
556008	8 pole	11.47	573.50	458.80
556009	9 pole	12.88	644.00	515.20
556010	10 pole	14.37	718.50	574.80
556011	11 pole	15.78	789.00	631.20
556012	12 pole	17.27	863.50	690.80

HIGH VOLTAGE FUSE HOLDERS

For 701000 Series Fuses.

L.F. No.	Size, In. L. x H.	Net Each	Net per 100	
			100	500
711001	2½ x 1⅝	$ 5.36	$268.00	$214.40
For 702000 Series Fuses.				
711002	6½ x 1⅝	$ 5.47	$273.50	$218.80
For 703000 Series Fuses.				
711003	12 x 3	$14.33	$716.50	$573.20
For 621000 Series Fuses.				
631001	4 x 1 9/64	$ 2.66	$133.00	$106.40
For 622000 Series Fuses.				
631002	5¼ x 1 9/64	$ 3.91	$195.50	$156.40
For 623000 Series Fuses.				
631003	6¼ x 1 9/64	$ 4.63	$231.50	$185.20

TV SNAP-ON FUSE HOLDERS

094025	10 holders*	$3.00	$3.36
350130	Holders†	.22	.....

*In plastic box of 10. †Bulk.

STANDARD FUSE CLIPS (PHOSPHOR BRONZE, NICKEL PLATED)

L.F. No.	Fuse Adaptation	Type	Net Each, Lots of 5	Net per 100	
				100	500
101001	SFE, 3AG, 8AG, 3AB	Ear	$0.075	$ 3.75	$ 3.00
101002	SFE, 3AG, 8AG, 3AB	Earless	.081	4.05	3.24
101003*	SFE, 3AG, 8AG, 3AB	Lug	.097	4.85	3.88
103001	4AG, 4AB	Ear	.12	6.00	4.80
104002	4AG, 4AB	Earless	.12	6.00	4.80
105001	5AG	Ear	.15	7.50	6.00
105002	5AG	Earless	.15	7.50	6.00
107001	9/16" dia.	Ear	.19	9.50	7.60
107002	9/16" dia.	Earless	.21	10.50	8.40
109001	13/16" dia.	Ear	.73	36.50	29.20
109002	13/16" dia.	Earless	.73	36.50	29.20

*Unplated, bright dip.

STANDARD FUSE CLIPS (BERYLLIUM COPPER, SILVER PLATED)

121001	SFE, 3AG, 8AG, 3AB	Ear	$0.15	$ 7.50	$ 6.00
121002	SFE, 3AG, 8AG, 3AB	Earless	.16	8.00	6.40
121004	SFE, 3AG, 8AG, 3AB	Lug	.42	21.00	16.80
123001	4AG, 4AB	Ear	.24	12.00	9.60
123002	4AG, 4AB	Earless	.24	12.00	9.60
125001	5AG, hi-volt	Ear	.38	19.00	15.20
125002	5AG, hi-volt	Earless	.36	18.00	14.40
127001	9/16" dia.	Ear	.91	45.50	36.40
127002	9/16" dia.	Earless	.91	45.50	36.40
129001	13/16" dia.	Ear	2.15	107.50	86.00
129002	13/16" dia.	Earless	2.15	107.50	86.00

PC BOARD FUSE CLIPS (SPRING BRONZE)

102068	1AG, 3AG, 8AG	Ear	$0.097	$4.85	$3.88
102069	1AG, 3AG, 8AG	Earless	.097	4.85	3.88

HEAVY DUTY MANUAL RESET CIRCUIT BREAKERS

Exact replacement protector for TV circuits. Ideal for current overload protection for model railroads, toy transformers, hair dryers, small appliances, tools, wiring, etc. For 125 VAC. Size, 1¾" x 1 3/16" x ½". Standard circuit breakers also available. Suffix **C** indicates individually carded.

815.650C thru 81501.5C—Net Ea. **$2.27**
815.650 thru 81501.5—Box of 5 . . . **2.20**
8151.75C thru 815007C—Net Ea. . **1.64**
8151.75 thru 815007—Box of 5 . . . **1.56**

L.F. No.	Trip Rating Amps	L.F. No.	Trip Rating Amps
815.650*	.650	815003	3
815.800*	.800	8153.25	3.25
815001 *	1	81503.5	3.5
8151.25*	1.25	8153.75	3.75
81501.5*	1.5	815004	4
8151.75	1.75	81504.5	4.5
815002	2	815005	5
8152.25	2.25	815006	6
81502.5	2.5	815007	7
8152.75	2.75		

*Add prefix **R** for std. circuit breakers.

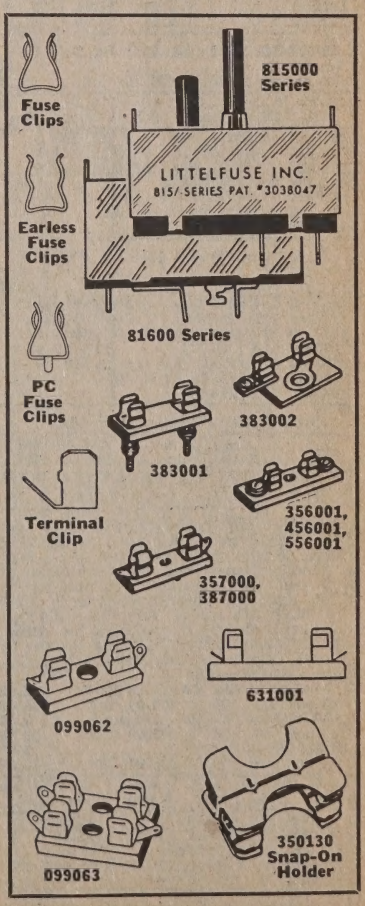
R815.650C thru R81501.5C—Net . **$1.64**
R815.650 thru R81501.5—
Box of 5 . . . . . **1.58**

L.F. No. 815(000) PA-Circuit Breaker Adapter Plate—Net Each **$0.20**; 100 Net: **$16.50** ($100 lots); **$13.20** ($500 lots).

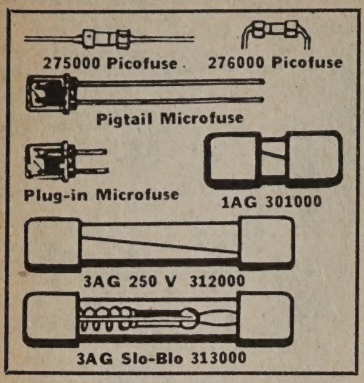
DUAL CIRCUIT BREAKERS

Exact replacements for RCA.
Net per bubble packed card **$1.75**

L.F. No.	RCA No.	Term. 1 and 2 Hold	Term. 3 and 4 Hold
816100	120784	1.30 A	.375 A
816101	121719	.900 A	.325 A
816102	1471912-4	.950 A	.400 A
816103	130077	.175 A	.400 A



LITTELFUSE Quality Fuses



SUBMINIATURE FUSES

A must for servicing European electronic equipment. **Size:** 20 mm x 5 mm (.8" x .2").

FAST ACTING (250 V) TYPE F

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
212.100	1/10	$2.43	$40.50	$32.40
212.125	1/8	2.43	40.50	32.40
212.200	2/10	1.89	31.50	25.20
212.250	1/4	1.89	31.50	25.20
212.300	3/10	1.89	31.50	25.20
212.400	4/10	1.89	31.50	25.20
212.500	1/2	1.89	31.50	25.20
212.600	6/10	1.89	31.50	25.20
212.700	7/10	1.89	31.50	25.20
212.800	8/10	1.89	31.50	25.20
212001	1	1.59	26.50	21.20
21201.25	1–1/4	1.59	26.50	21.20
21201.6	1–6/10	1.59	26.50	21.20
212002	2	1.59	26.50	21.20
21202.5	2–1/2	1.59	26.50	21.20
212003	3	1.59	26.50	21.20
212004	4	1.59	26.50	21.20
212005	5	1.59	26.50	21.20
212006	6	1.59	26.50	21.20

MEDIUM ACTING (250 V) TYPE M

Net per 5 . . . . . $ 1.89
Net per 100: 100 . . . $31.50; 500 . . . 25.20

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
211.020	1/50	211.500	1/2	211003	3
211.031	1/32	211.600	6/10	211004	4
211.100	1/10	211.800	8/10	211005	5
211.200	2/10	211001	1		
211.250	1/4	2111.25	1–1/4		
211.300	3/10	21101.6	1–6/10		
211.400	4/10	211002	2		

SLO BLO FUSES (250 V) TYPE T

Net per 5 . . . . . $ 1.89
Net per 100: 100 . . . $31.50; 500 . . . 25.20

213.100	1/10	213.600	6/10	21302.5	2–1/2
213.125	1/8	213.700	7/10	213003	3
213.200	2/10	213.800	8/10	213004	4
213.250	1/4	213001	1	213005	5
213.300	3/10	2131.25	1–1/4	213006	6
213.400	4/10	21301.6	1–6/10		
213.500	1/2	213002	2		

SUBMINIATURE (125 V MAX.)

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
271.500	1/2	$1.89	$31.50	$25.20
27101.5	1–1/2	1.59	26.50	21.20

SUBMINIATURE PICOFUSES (125 V)

Blow time 4 hours minimum at 100% of rating; 5 secs. max. at 200%. Amperage printed on body; can be color-coded at additional cost. Ceramic body only 7/32" lg. x 3/64" dia.; tin-coated copper leads .025" dia. Order 275 (prefix) for axial leads 1 3/16" long for diode clip or in-circuit mounting; 276 for radial leads 1 3/8" long for use in printed circuits or receptacles. UL Recognized thru 10 amps.

275.062 thru 275.500—Net per 5 . . . $ 2.88
Net per 100: 100 . . . $48.00; 500 . . . 38.40
275.750 thru 275010—Net per 5 . . . . 2.52
Net per 100: 100 . . . $42.00; 500 . . . 33.60
275015—Net per 5 . . . . . 3.00
Net per 100: 100 . . . $50.00; 500 . . . 40.00

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
275.062	1/16	275001	1	275004	4
275.125	1/8	27501.5	1–1/2	275005	5
275.250	1/4	275002	2	275007	7
275.375	3/8	27502.5	2–1/2	275010	10
275.500	1/2	275003	3	275015	15
275.750	3/4	27503.5	3–1/2		

MICROFUSE SUBMINIATURE FUSES

For PC and other min. space uses. Plug-in types use holder; pigtail types for soldering. Short circuit interrupting capacity 125 V, 10,000 amps DC. **Blow Specs:** 100%, 4-hour min.; 200%, 5-sec. max. **Size:** 1/4" dia. x 1 1/32" (fuse body). Plug-in, transparent cap type listed. Use prefix **272** for plug-in, metal cap; prefix **279** for pigtail, transparent cap; prefix **278** for pigtail, metal cap. UL Recognized.

Plug-In L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
273.002	1/500	$7.26	$121.00	$96.80
273.005	1/200	7.26	121.00	96.80
273.010	1/100	7.26	121.00	96.80
273.015	1/64	7.26	121.00	96.80
273.031	1/32	7.26	121.00	96.80
273.050	1/20	6.09	101.50	81.20
273.062	1/16	6.09	101.50	81.20
273.100	1/10	6.09	101.50	81.20
273.125	1/8	6.09	101.50	81.20
273.200	2/10	6.09	101.50	81.20
273.250	1/4	6.09	101.50	81.20
273.300	3/10	6.09	101.50	81.20
273.400	4/10	6.09	101.50	81.20
273.500	1/2	6.09	101.50	81.20
273.600	6/10	6.09	101.50	81.20
273.700	7/10	6.09	101.50	81.20
273.750	3/4	6.09	101.50	81.20
273.800	8/10	6.09	101.50	81.20
273001	1	6.09	101.50	81.20
27301.5	1–1/2	6.09	101.50	81.20
273002	2	6.09	101.50	81.20
273003	3	6.09	101.50	81.20
273004	4	6.09	101.50	81.20
273005	5	6.09	101.50	81.20

HIGH RELIABILITY MICROFUSES

For zero defect programs. Hermetically sealed; gold-plated terminals for soldered or plug-in connections. Fuse rating identified on each fuse. Test data and traceability records are supplied and maintained. Rating 125 V, blow time same as 273 series; time/current characteristics certified to 1% AQL per MIL-Std-105, Inspection Level II. Short circuit interrupting capacity at 125 V, 10,000 amps DC. **Size:** Fuse cap and body, .290" lg., leads for 262 "plug-in" series .170". Pigtail on 268 series 1.0". Use prefix **268** for pigtail type (e.g., **268.002**).

Prices on Request

Plug-In L.F. No.	Amp Rating	Plug-In L.F. No.	Amp Rating
262.002	1/500	262.400	4/10
262.005	1/200	262.500	1/2
262.010	1/100	262.600	6/10
262.015	1/64	262.700	7/10
262.031	1/32	262.750	3/4
262.050	1/20	262.800	8/10
262.062	1/16	262001	1
262.100	1/10	26201.5	1–1/2
262.125	1/8	262002	2
262.200	2/10	262003	3
262.250	1/4	262004	4
262.300	3/10	262005	5

HIGH RELIABILITY PICOFUSES

For soldering into circuits or insertion into diode type clips and mtgs. Fuses rated at 125 V or less and will interrupt short circuit currents to 300 amps at 125 VDC. Non-hygroscopic ceramic bodies. Withstands 5-lb. axial pull test. Blow time 4 hours min., 100% rating; 5 secs. max., 200% rating. Insulation resistance is 1 meg min. measured with 100 V supply. **Size:** Body 7/32" lg., .078" dia. Leads are .025" dia., 1 9/16" lg., gold-plated copper.

Prices on Request

L.F. No.	Amp Rating	L.F. No.	Amp Rating
265.125	1/8	265002	2
265.250	1/4	265003	3
265.375	3/8	265004	4
265.500	1/2	265005	5
265.750	3/4	265007	7
265001	1	265010	10
26501.5	1–1/2	265015	15

7AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 20-sec. max. Lg. 7/8", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
303001	1	$0.63	$10.50	$8.40
30302.5	2–1/2	.63	10.50	8.40
303003	3	.63	10.50	8.40
303004	4	.63	10.50	8.40
303005	5	.45	7.50	6.00
303006	6	.45	7.50	6.00
303015	15	.45	7.50	6.00
303020	20	.45	7.50	6.00
303030	30	.45	7.50	6.00

1AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 20-sec. max. Lg. 7/8", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
301001	1	$0.63	$10.50	$8.40
30101.5	1–1/2	.63	10.50	8.40
301002	2	.63	10.50	8.40
30102.5	2–1/2	.63	10.50	8.40
301003	3	.63	10.50	8.40
301005	5	.45	7.50	6.00
301006	6	.45	7.50	6.00
30107.5	7–1/2	.45	7.50	6.00
301010	10	.45	7.50	6.00
301015	15	.45	7.50	6.00
301020	20	.45	7.50	6.00
301025	25	.45	7.50	6.00
301030	30	.45	7.50	6.00

3AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 20-sec. max. Length 1 1/4", dia. 1/4".

311004	4	$0.63	$10.50	$8.40
311005	5	.45	7.50	6.00
311006	6	.45	7.50	6.00
31107.5	7–1/2	.45	7.50	6.00
311008	8	.45	7.50	6.00
311010	10	.45	7.50	6.00
311015	15	.45	7.50	6.00
311025	25	.45	7.50	6.00
311030	30	.45	7.50	6.00
311035	35	.63	10.50	8.40

3AG FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/4", dia. 1/4". UL Listed thru 8 amps.

312.010	1/100	$3.39	$56.50	$45.20
312.031	1/32	2.91	48.50	38.80
312.062	1/16	1.50	25.00	20.00
312.100	1/10	1.50	25.00	20.00
312.125	1/8	1.50	25.00	20.00
312.150	15/100	1.50	25.00	20.00
312.175	.175	1.50	25.00	20.00
312.187	3/16	1.50	25.00	20.00
312.200	2/10	1.50	25.00	20.00
312.250	1/4	.84	14.00	11.20
312.300	3/10	.84	14.00	11.20
312.375	3/8	.84	14.00	11.20
312.500	1/2	.84	14.00	11.20
312.600	6/10	.84	14.00	11.20
312.750	3/4	.84	14.00	11.20
312001	1	.63	10.50	8.40
3121.25	1–1/4	.63	10.50	8.40
31201.5	1–1/2	.63	10.50	8.40
31201.6	1–6/10	.63	10.50	8.40
312002	2	.63	10.50	8.40
31202.5	2–1/2	.63	10.50	8.40
312003	3	.63	10.50	8.40
312004	4	.75	12.50	10.00
312005	5	.75	12.50	10.00
312006	6	.75	12.50	10.00
312007	7	.75	12.50	10.00
312008	8	1.02	17.00	13.60
312010	10	1.02	17.00	13.60

3AG SLO BLO FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1 1/4", dia. 1/4". UL Listed thru 7 amps.

313.010	1/100	$2.52	$42.00	$33.60
313.031	1/32	2.52	42.00	33.60
313.040	4/100	2.52	42.00	33.60
313.062	1/16	1.89	31.50	25.20
313.100	1/10	1.89	31.50	25.20
313.125	1/8	1.89	31.50	25.20
313.150	15/100	1.89	31.50	25.20
313.175	.175	1.89	31.50	25.20
313.187	3/16	1.89	31.50	25.20
313.200	2/10	1.89	31.50	25.20
313.250	1/4	1.89	31.50	25.20
313.300	3/10	1.89	31.50	25.20
313.375	3/8	1.89	31.50	25.20
313.400	4/10	1.89	31.50	25.20
313.500	1/2	1.89	31.50	25.20
313.600	6/10	1.89	31.50	25.20
313.700	7/10	1.89	31.50	25.20
313.750	3/4	1.89	31.50	25.20
313.800	8/10	1.89	31.50	25.20
31301.2	1-2/10	1.77	29.50	23.60
3131.25	1–1/4	1.77	29.50	23.60
31301.5	1–1/2	1.77	29.50	23.60
31301.6	1-6/10	1.77	29.50	23.60
313002	2	1.77	29.50	23.60
31302.5	2–1/2	1.50	25.00	20.00
31302.8	2-8/10	1.50	25.00	20.00
313003	3	1.50	25.00	20.00
31303.2	3-2/10	1.50	25.00	20.00
313004	4	1.50	25.00	20.00
313005	5	1.50	25.00	20.00
3136.25	6–1/4	1.50	25.00	20.00
313007	7	1.50	25.00	20.00
313008	8	1.50	25.00	20.00
313010	10	1.50	25.00	20.00
313015	15	1.50	25.00	20.00
313020	20	1.50	25.00	20.00
313025	25	1.50	25.00	20.00
313030	30	1.50	25.00	20.00

LITTELFUSE Quality Fuses

3AG SLO BLO PIGTAIL FUSES (125 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg. 1¼", dia. ¼", 1½" pigtails. UL Listed thru 7 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
315.010	1/100	$3.00	$50.00	$40.00
315.031	1/32	3.00	50.00	40.00
315.062	1/16	2.34	39.00	31.20
315.100	1/10	2.34	39.00	31.20
315.125	1/8	2.34	39.00	31.20
315.150	15/100	2.34	39.00	31.20
315.175	.175	2.34	39.00	31.20
315.187	3/16	2.34	39.00	31.20
315.200	2/10	2.34	39.00	31.20
315.250	1/4	2.34	39.00	31.20
315.300	3/10	2.34	39.00	31.20
315.375	3/8	2.34	39.00	31.20
315.400	4/10	2.34	39.00	31.20
315.500	1/2	2.34	39.00	31.20
315.600	6/10	2.34	39.00	31.20
315.700	7/10	2.34	39.00	31.20
315.750	3/4	2.34	39.00	31.20
315.800	8/10	2.34	39.00	31.20
315001	1	2.34	39.00	31.20
31501.2	1-2/10	2.25	37.50	30.00
3151.25	1-1/4	2.25	37.50	30.00
31501.5	1-1/2	2.25	37.50	30.00
31501.6	1-6/10	2.25	37.50	30.00
315002	2	2.25	37.50	30.00
31502.5	2-1/2	1.89	31.50	25.20
31502.8	2-8/10	1.89	31.50	25.20
315003	3	1.89	31.50	25.20
31503.2	3-2/10	1.89	31.50	25.20
315004	4	1.89	31.50	25.20
315005	5	1.89	31.50	25.20

3AG PIGTAIL FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1¼", dia. ¼", 1½" pigtails. UL Listed.

318.010	1/100	$4.05	$67.50	$54.00
318.031	1/32	3.72	62.00	49.60
318.062	1/16	2.34	39.00	31.20
318.100	1/10	2.34	39.00	31.20
318.125	1/8	2.34	39.00	31.20
318.150	15/100	2.34	39.00	31.20
318.175	.175	2.34	39.00	31.20
318.187	3/16	2.34	39.00	31.20
318.200	2/10	2.34	39.00	31.20
318.250	1/4	1.50	25.00	20.00
318.300	3/10	1.50	25.00	20.00
318.375	3/8	1.50	25.00	20.00
318.500	1/2	1.50	25.00	20.00
318.750	3/4	1.50	25.00	20.00
318001	1	1.14	19.00	15.20
3181.25	1-1/4	1.14	19.00	15.20
31801.5	1-1/2	1.14	19.00	15.20
31801.6	1-6/10	1.14	19.00	15.20
318002	2	1.14	19.00	15.20
31802.5	2-1/2	1.14	19.00	15.20
318003	3	1.14	19.00	15.20
318004	4	1.17	19.50	15.60
318005	5	1.17	19.50	15.60
318006	6	1.17	19.50	15.60
318007	7†	1.17	19.50	15.60
318008	8†	1.50	25.00	20.00

3AG INDICATING FUSES (125 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max. Length 1¼", dia. ¼".

334.750	3/4‡	$3.66	$61.00	$48.80
334001	1‡	2.82	47.00	37.60
33401.5	1-1/2‡	2.82	47.00	37.60
334002	2‡	2.82	47.00	37.60
334003	3‡	2.82	47.00	37.60
334004	4‡	2.82	47.00	37.60
334005	5‡	2.82	47.00	37.60
334006	6*	4.02	67.00	53.60
334008	8*	4.02	67.00	53.60
334010	10*	4.02	67.00	53.60
334012	12*	4.02	67.00	53.60
334015	15*	4.02	67.00	53.60
334020	20*	4.02	67.00	53.60

*32 volt. †125 volt. ‡UL Listed.

3AB TINY MIGHTY (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1¼", dia. ¼". UL Listed thru 15 A.

314.125	1/8	$1.23	$20.50	$16.40
314.250	1/4	1.23	20.50	16.40
314.375	3/8	1.23	20.50	16.40
314.500	1/2	1.23	20.50	16.40
314.750	3/4	1.23	20.50	16.40
314001	1	1.23	20.50	16.40
314002	2	1.23	20.50	16.40
314003	3	1.23	20.50	16.40
314004	4	1.23	20.50	16.40
314005	5	1.02	17.00	13.60
314006	6	1.02	17.00	13.60
314007	7	1.02	17.00	13.60
314008	8	1.02	17.00	13.60
314010	10	1.02	17.00	13.60
314012	12	1.08	18.00	14.40
314015	15	1.08	18.00	14.40
314020	20	1.08	18.00	14.40
314025	25	1.59	26.50	21.20
314030	30	1.59	26.50	21.20

3AB SLO BLO FUSES (250 V) CERAMIC

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg., 1¼", dia., ¼".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
323.010	1/100	$3.18	$53.00	$42.40
323.031	1/32	3.18	53.00	42.40
323.062	1/16	2.64	44.00	35.20
323.100	1/10	2.64	44.00	35.20
323.125	1/8	2.64	44.00	35.20
323.150	15/100	2.64	44.00	35.20
323.175	.175	2.64	44.00	35.20
323.187	3/16	2.64	44.00	35.20
323.200	2/10	2.64	44.00	35.20
323.250	1/4	2.64	44.00	35.20
323.300	3/10	2.64	44.00	35.20
323.375	3/8	2.64	44.00	35.20
323.400	4/10	2.64	44.00	35.20
323.500	1/2	2.64	44.00	35.20
323.600	6/10	2.64	44.00	35.20
323.700	7/10	2.64	44.00	35.20
323.750	3/4	2.64	44.00	35.20
323.800	8/10	2.64	44.00	35.20
323.001	1	2.64	44.00	35.20
32301.2	1-2/10	2.64	44.00	35.20
3231.25	1-1/4	2.64	44.00	35.20
32301.5	1-1/2	2.64	44.00	35.20
32301.6	1-6/10	2.64	44.00	35.20
323002	2	2.64	44.00	35.20
32302.8	2-8/10	1.89	31.50	25.20
323003	3	1.89	31.50	25.20
32303.2	3-2/10 *	1.89	31.50	25.20
323004	4*	1.89	31.50	25.20
323005	5*	1.89	31.50	25.20
3236.25	6-1/4*	1.89	31.50	25.20
323007	7*	1.89	31.50	25.20
323008	8†	1.89	31.50	25.20
323010	10†	1.89	31.50	25.20
323015	15†	1.89	31.50	25.20
323020	20†	1.89	31.50	25.20
323025	25†	1.89	31.50	25.20
323030	30†	1.89	31.50	25.20

*125 volt; †32 volt.

LIMITED CURRENT (250 V) TYPE C

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. UL Listed thru 6 amps.

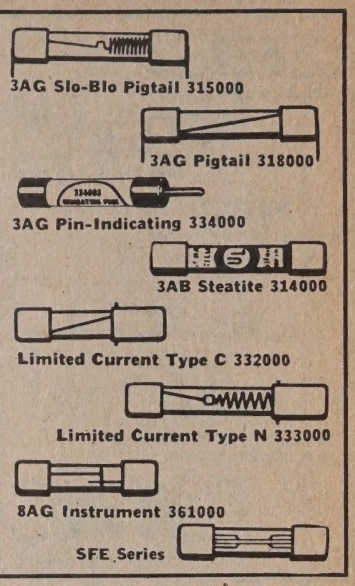
332.031	1/32	$2.82	$47.00	$37.60
332.062	1/16	1.89	31.50	25.20
332.125	1/8	1.50	25.00	20.00
332.187	3/16	1.50	25.00	20.00
332.250	1/4	1.14	19.00	15.20
332.300	3/10	1.14	19.00	15.20
332.375	3/8	1.14	19.00	15.20
332.400	4/10	1.14	19.00	15.20
332.500	1/2	1.14	19.00	15.20
332.700	7/10	1.14	19.00	15.20
332.750	3/4	1.14	19.00	15.20
332001	1	.69	11.50	9.20
3321.25	1-1/4	.69	11.50	9.20
33201.5	1-1/2	.69	11.50	9.20
3321.75	1-3/4	.69	11.50	9.20
332002	2	.69	11.50	9.20
33202.5	2-1/2	.69	11.50	9.20
332003	3	.69	11.50	9.20
33203.5	3-1/2	.78	13.00	10.40
332004	4	.78	13.00	10.40
332005	5	.78	13.00	10.40
332006	6	.78	13.00	10.40
332007	7*	.78	13.00	10.40
332008	8*	1.20	20.00	16.00
332010	10*	1.20	20.00	16.00

*125 volt.

LC SLO BLO (125 V) TYPE N

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. UL Listed thru 5 amps.

333.010	1/100	$2.52	$42.00	$33.60
333.031	1/32	2.52	42.00	33.60
333.062	1/16	1.89	31.50	25.20
333.100	1/10	1.89	31.50	25.20
333.150	15/100	1.89	31.50	25.20
333.200	2/10	1.89	31.50	25.20
333.250	1/4	1.89	31.50	25.20
333.300	3/10	1.89	31.50	25.20
333.400	4/10	1.89	31.50	25.20
333.500	1/2	1.89	31.50	25.20
333.600	6/10	1.89	31.50	25.20
333.700	7/10	1.89	31.50	25.20
333.750	3/4	1.89	31.50	25.20
333.800	8/10	1.89	31.50	25.20
333001	1	1.89	31.50	25.20
3331.25	1-1/4	1.77	29.50	23.60
33301.6	1-6/10	1.77	29.50	23.60
3331.75	1-3/4	1.77	29.50	23.60
333002	2	1.77	29.50	23.60
33302.5	2-1/2	1.77	29.50	23.60
33302.8	2-8/10	1.77	29.50	23.60
333003	3	1.77	29.50	23.60
33303.2	3-2/10	1.77	29.50	23.60
33303.5	3-1/2	1.77	29.50	23.60
333004	4	1.77	29.50	23.60
333005	5	1.77	29.50	23.60
3336.25	6-1/4	1.77	29.50	23.60
333007	7	1.77	29.50	23.60



SFE AUTO FUSES (32 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 0–1 hour; 150%, 20 amps or less 0–15 sec., 30 amps 0–30 sec. Dia. ¼".

L.F. No.	Amp Rating	Lgth. In.	Net per 5	Net per 100	
				100	500
307004	4	5/8	$0.42	$7.00	$5.60
307006	6	3/4	.42	7.00	5.60
30707.5	7-1/2	7/8	.42	7.00	5.60
307009	9	7/8	.42	7.00	5.60
307014	14	1 1/16	.42	7.00	5.60
307020	20	1 1/4	.42	7.00	5.60
307030	30	1 7/16	.54	9.00	7.20

8AG FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1", dia. ¼". UL Listed thru 5 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
362.125	1/8	$1.50	$25.00	$20.00
362.250	1/4	.84	14.00	11.20
362.375	3/8	.84	14.00	11.20
362.500	1/2	.84	14.00	11.20
362.750	3/4	.84	14.00	11.20
362001	1	.63	10.50	8.40
36201.5	1-1/2	.63	10.50	8.40
362002	2	.63	10.50	8.40
36202.5	2-1/2	.63	10.50	8.40
362003	3	.63	10.50	8.40
362005	5	.45	7.50	6.00
362006	6	.45	7.50	6.00
362008	8	.45	7.50	6.00
362010	10	.45	7.50	6.00
362012	12	.45	7.50	6.00
362015	15	.45	7.50	6.00
362020	20	.45	7.50	6.00
362025	25	.45	7.50	6.00
362030	30	.45	7.50	6.00

8AG INSTRUMENT FUSES

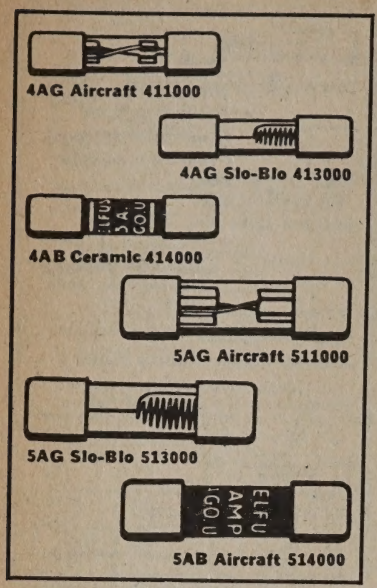
Blow Time: 100%, 4-hour min.; 200%, 5-sec. max. Length 1", dia. ¼".

361.002	1/500	$9.09	$151.50	$121.20
361.005	1/200	4.02	67.00	53.60
361.010	1/100	3.39	56.50	45.20
361.031	1/32	2.91	48.50	38.80
361.062	1/16	1.89	31.50	25.20
361.100	1/10	1.50	25.00	20.00
361.125	1/8	1.50	25.00	20.00
361.187	3/16	1.50	25.00	20.00
361.200	2/10	1.50	25.00	20.00
361.250	1/4	.84	14.00	11.20
361.375	3/8	.84	14.00	11.20
361.400	4/10	.84	14.00	11.20
361.500	1/2	.84	14.00	11.20
361.750	3/4	.84	14.00	11.20
361001	1	.72	12.00	9.60
36101.5	1-1/2	.72	12.00	9.60
361002	2	.72	12.00	9.60
361003	3	.72	12.00	9.60
361004	4	.72	12.00	9.60
361005	5	.72	12.00	9.60

9AG FUSE (32 V OR LESS)

Blow Time: 100%, 4-hour min.; 125%, 0–1 hour; 200%, 0–25 seconds. Lg. 1 7/16", dia. ¼".

306050	50	$0.84	$14.00	$11.20



4AG QUICK-ACTING FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1¼", dia. 9/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
412.062	1/16	$2.82	$47.00	$37.60
412.125	1/8	2.07	34.50	27.60
412.150	15/100	2.07	34.50	27.60
412.250	1/4	1.02	17.00	13.60
412.500	1/2	1.02	17.00	13.60
412001	1	1.02	17.00	13.60
41201.5	1–1/2	1.02	17.00	13.60
412002	2	1.02	17.00	13.60
41202.5	2–1/2	1.02	17.00	13.60
412003	3	1.02	17.00	13.60
412005	5	.81	13.50	10.80
412008	8*	.81	13.50	10.80

*125 volt.

4AG SLO BLO AIRCRAFT FUSES (125 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1¼", dia. 9/32".

413.062	1/16	$2.52	$42.00	$33.60
413.100	1/10	2.52	42.00	33.60
413.125	1/8	2.52	42.00	33.60
413.150	15/100	2.52	42.00	33.60
413.200	2/10	2.52	42.00	33.60
413.250	1/4	2.52	42.00	33.60
413.300	3/10	2.52	42.00	33.60
413.400	4/10	2.52	42.00	33.60
413.500	1/2	2.52	42.00	33.60
413.600	6/10	2.52	42.00	33.60
413.750	3/4	2.52	42.00	33.60
413.800	8/10	2.52	42.00	33.60
413001	1	2.52	42.00	33.60
4131.25	1–1/4	2.52	42.00	33.60
41301.5	1–1/2	2.52	42.00	33.60
41301.6	1–6/10	2.52	42.00	33.60
413002	2	2.52	42.00	33.60
41302.5	2–1/2	1.98	33.00	26.40
413003	3	1.98	33.00	26.40
41303.2	3–2/10	1.98	33.00	26.40
413004	4	1.98	33.00	26.40
413005	5	1.98	33.00	26.40
4136.25	6–1/4	1.98	33.00	26.40
413008	8*	1.98	33.00	26.40
413010	10*	1.98	33.00	26.40
413015	15*	1.98	33.00	26.40
413020	20*	1.98	33.00	26.40
413025	25*	1.98	33.00	26.40
413030	30*	1.98	33.00	26.40

*32 volt.

4AG AIRCRAFT FUSES (32 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1¼", dia. 9/32".

411010	10	$0.81	$13.50	$10.80
411015	15	.81	13.50	10.80
411020	20	.81	13.50	10.80
411025	25	.81	13.50	10.80
411030	30	.81	13.50	10.80
411035	35	.93	15.50	12.40
411040	40	.93	15.50	12.40

4AB FUSES (250 V) CERAMIC

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 15-sec. max. Length 1¼", dia. 9/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
414001	1	$1.98	$33.00	$26.40
414002	2	1.98	33.00	26.40
414003	3	1.98	33.00	26.40
414005	5	1.89	31.50	25.20
414006	6	1.89	31.50	25.20
414008	8	1.89	31.50	25.20
414010	10	1.89	31.50	25.20
414015	15	1.89	31.50	25.20
414020	20	1.89	31.50	25.20
414025	25*	1.89	31.50	25.20
414030	30*	1.89	31.50	25.20
414035	35†	1.98	33.00	26.40
414040	40†	1.98	33.00	26.40

*125 V; †32 V.

4AB SLO BLO FUSES (250 V) CERAMIC

Blow Time: 110%, 4-hr. max.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg., 1½", dia. 9/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
423.062	1/16	$2.91	$48.50	$38.80
423.100	1/10	2.91	48.50	38.80
423.125	1/8	2.91	48.50	38.80
423.150	15/100	2.91	48.50	38.80
423.200	2/10	2.91	48.50	38.80
423.250	1/4	2.91	48.50	38.80
423.300	3/10	2.91	48.50	38.80
423.400	4/10	2.91	48.50	38.80
423.500	1/2	2.91	48.50	38.80
423.600	6/10	2.91	48.50	38.80
423.750	3/4	2.91	48.50	38.80
423.800	8/10	2.91	48.50	38.80
423001	1	2.91	48.50	38.80
4231.25	1–1/4	2.91	48.50	38.80
42301.5	1–1/2	2.91	48.50	38.80
42301.6	1–6/10	2.91	48.50	38.80
423002	2	2.91	48.50	38.80
42302.5	2–1/2	2.07	34.50	27.60
423003	3	2.07	34.50	27.60
42303.2	3–2/10*	2.07	34.50	27.60
423004	4*	2.07	34.50	27.60
423005	5*	2.07	34.50	27.60
4236.25	6–1/4*	2.07	34.50	27.60
423008	8†	2.07	34.50	27.60
423010	10†	2.07	34.50	27.60
423015	15†	2.07	34.50	27.60
423020	20†	2.07	34.50	27.60
423025	25†	2.07	34.50	27.60
423030	30†	2.07	34.50	27.60

*125 volt; †32 volt.

5AG AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 20-sec. max. Length 1½", dia. 13/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
511010	10	$1.14	$19.00	$15.20
511015	15	1.14	19.00	15.20
511020	20	1.14	19.00	15.20
511025	25	1.14	19.00	15.20
511030	30	1.14	19.00	15.20
511035	35	1.14	19.00	15.20
511040	40	1.14	19.00	15.20
511050	50	1.14	19.00	15.20
511060	60	1.14	19.00	15.20

5AG QUICK-ACTING FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1½", dia. 13/32".

512001	1	$1.14	$19.00	$15.20
512002	2	1.14	19.00	15.20
512003	3	1.14	19.00	15.20
512004	4	1.14	19.00	15.20
512005	5	1.14	19.00	15.20
512008	8*	1.14	19.00	15.20

*125 volt.

5AG SLO BLO FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1½", dia. 13/32".

513.500	1/2	$2.91	$48.50	$38.80
513001	1	2.91	48.50	38.80
513002	2	2.91	48.50	38.80
513003	3	2.43	40.50	32.40
513004	4	2.43	40.50	32.40
513005	5	2.43	40.50	32.40
513010	10	2.43	40.50	32.40
513015	15	2.43	40.50	32.40
513020	20	2.43	40.50	32.40
513025	25	2.64	44.00	35.20
513030	30	2.64	44.00	35.20

5AB AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1½", dia. 13/32". UL Listed thru 15 amps.
Net per 5 . . . . . $ 1.50
Net per 100: 100 . . . $25.00; 500 . . . 20.00

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
514001	1	514007	7
514002	2	514008	8
514003	3	514010	10
514003.5	3–1/2	514015	15
514005	5	514020	20
514006	6	514025	25
5146.25	6–1/4	514030	30

5AB SLO BLO FUSES (CERAMIC)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%; 5 sec. min. Lg. 1½", dia. 13/32". Voltage rating 250 V except as noted.
Net per 5 . . . . . $ 3.39
Net per 100: 100 . . . $56.50; 500 . . . 45.20

523.100	1/10	523003	3
523.150	15/100	52303.2	3–2/10
523.200	2/10	52303.5	3–1/2
523.300	3/10	523004	4
523.400	4/10	52304.5	4–1/2
523.500	1/2	523005	5
523.600	6/10	52305.6	5–6/10
523.800	8/10	5236.25	6–1/4
523001	1	523007	7
5231.12	1–1/8	523008	8
5231.25	1–1/4	523009	9
52301.4	1–4/10	523010	10
52301.6	1–6/10	523012	12*
52301.8	1–8/10	523015	15*
523002	2	523020	20†
5232.25	2–1/4	523025	25†
52302.5	2–1/2	523030	30†
52302.8	2–8/10		

*125 volt. †32 volt.

HIGH VOLTAGE FUSES

Designed for use in aircraft radio equipment, transmitting equipment, X-ray apparatus, high voltage rectifiers, etc. For use in circuits rated up to 20 kW DC or 30 kVA AC. Fuses are fiber enclosed with cadmium plated end caps; 612000–623000 caps are nickel plated. Two principles of arc suppression are employed: (1) Multi-break fuse wire which blows at each half inch of its length; (2) Ceramic baffles break the arc into several parts and quench it.
Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10 sec. max.

1000-VOLT (3" x 13/32")

L.F. No.	Amp Rating	L.F. No.	Amp Rating
621.375	3/8	621001	1
621.500	1/2	62101.5	1–1/2
621.750	3/4	621002	2

2500-VOLT (4½" x 13/32")

622.500	1/2	62201.5	1–1/2
622.750	3/4	622002	2
622001	1		

3000-VOLT (5½" x 13/32")

623.500	1/2	62301.5	1–1/2
623.750	3/4	623002	2
623001	1		

1000-VOLT (3" x 13/16")

701.062	1/16	701.750	3/4
701.125	1/8	701001	1
701.250	1/4	70101.5	1–1/2
701.375	3/8	701002	2
701.500	1/2		

5000-VOLT (5" x 13/16")

702.062	1/16	702001	1
702.125	1/8	70201.5	1–1/2
702.250	1/4	702002	2
702.375	3/8	70202.5	2–1/2
702.500	1/2	702003	3
702.750	3/4		

10,000-VOLT (10" x 13/16")

703.062	1/16	703.750	3/4
703.125	1/8	703001	1
703.250	1/4	70301.5	1–1/2
703.375	3/8	703002	2
703.500	1/2	703003	3

HIGH VOLTAGE FUSE PRICING

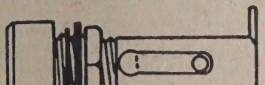
L.F. No.	Net Each	Net per 100	
		100	500
621000 Series	$0.88	$ 44.00	$ 35.20
622000 Series	1.22	61.00	48.80
623000 Series	1.83	91.50	73.20
701000 Series	2.23	111.50	89.20
702000 Series	2.25	112.50	90.00
703000 Series	4.31	215.50	172.40

PLUG FUSES

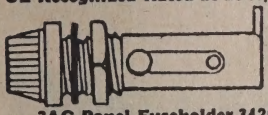
ECON TIME-DELAY PLUG FUSES

Dual-element plug type fuses provide additional protection against blowing during motor starting cycle. UL Recognized. For 125-volt operation.

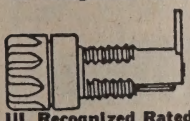
L.F. No.	Amp Rating	Net per Box of 4	Net per 100
TE3/10	3/10	$1.04	$24.00
TE4/10	4/10	1.04	24.00
TE8/10	8/10	1.04	24.00
TE1	1	1.04	24.00
TE1-1/8	1-1/8	1.04	24.00
TE1-1/4	1-1/4	1.04	24.00
TE1-4/10	1-4/10	1.04	24.00
TE1-6/10	1-6/10	1.04	24.00
TE1-8/10	1-8/10	1.04	24.00
TE2	2	1.04	24.00
TE2-1/4	2-1/4	1.04	24.00
TE2-1/2	2-1/2	1.04	24.00
TE3-2/10	3-2/10	1.04	24.00
TE3-1/2	3-1/2	1.04	24.00
TE4	4	1.04	24.00
TE4-1/2	4-1/2	1.04	24.00
TE5	5	1.04	24.00
TE5-6/10	5-6/10	1.04	24.00
TE6-1/4	6-1/4	1.04	24.00
TE7	7	1.04	24.00
TE8	8	1.04	24.00
TE9	9	1.04	24.00
TE10	10	1.04	24.00
TE12	12	1.04	24.00
TE14	14	1.04	24.00
TE15	15	.56	13.00
TE20	20	.56	13.00
TE25	25	.56	13.00
TE30	30	.56	13.00



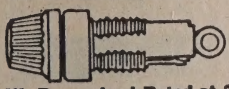
3AG Panel Fuseholder 341001
UL Recognized Rated at 15 A/250 V



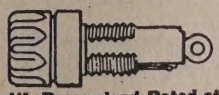
3AG Panel Fuseholder 342001
UL Recognized Rated at 15 A/250 V



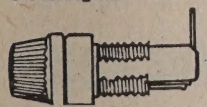
3AG Panel Fuseholder 342004
UL Recognized Rated at 20 A/250 V



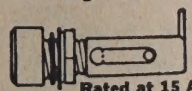
3AG Panel Fuseholder 342012
UL Recognized Rated at 20 A/250 V



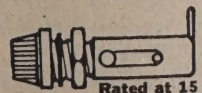
3AG Panel Fuseholder 342014
UL Recognized Rated at 20 A/250 V



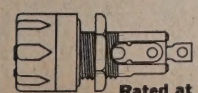
3AG Panel Fuseholder 342022
UL Recognized Rated at 20 A/250 V



8AG Panel Fuseholder 371001
Rated at 15 A/250 V



8AG Panel Fuseholder 372001
Rated at 15 A/250 V



4AG Panel Fuseholder 442006
Rated at 20 A/250 V

CLEARSITE ONE-TIME PLUG HOUSE FUSES

For 125 VAC or DC. UL Listed. Use with standard Edison base fuse holders.

L.F. No.	Amp Rating	Net per Box of 5	Net per 100
CP10	10	$0.64	$11.30
CP15	15	.61	10.40
CP20	20	.61	10.40
CP25	25	.61	10.40
CP30	30	.61	10.40

FUSE HOLDERS, RETAINERS

MICROFUSE HOLDERS

For mounting of 273000 Series Microfuse. Type 281006 is front panel mounting; 281005 ideal PC board mtg.; 284000 Series front panel mtg. with indicator bulb.

L.F. No.	Voltage Range	Net Each	Net per 100	
			100	500
280021	.....	$ 2.42	$ 121.00	$ 96.80
281001	.....	.71	35.50	28.40
281005	.....	.64	32.00	25.60
281006	.....	1.90	95.00	76.00
281007	.....	.64	32.00	25.60
282001	.....	3.22	161.00	128.80
282002	.....	3.04	152.00	121.60
282007	.....	5.59	279.50	223.60
282008	.....	5.47	273.50	218.80
284004	2½–7	5.14	257.00	205.60
284005	7–16	5.14	257.00	205.60
284006	16–32	5.14	257.00	205.60
284003	100–125	3.82	191.00	152.80

MICROFUSE INDICATING HOLDERS—RF SHIELDED

284121	2½–7 V	$19.27	$ 963.50	$770.80
284122	7–16 V	19.27	963.50	770.80
284107	12–22 V	19.27	963.50	770.80
284108	23–33 V	21.71	1085.50	868.40
284109	34–45 V	21.71	1085.50	868.40
284110	46–60 V	21.71	1085.50	868.40
284111	61–80 V	21.71	1085.50	868.40
284112	81–90 V	21.71	1085.50	868.40
284113	91–125 V	14.93	746.50	597.20

3AG PANEL FUSEHOLDERS

L.F. No.	Type	Net Each	Net per 100	
			100	500
340255A	R/F shld'd (FHN26G2)	$11.63	$581.50	$465.20
340256A	R/F shld'd (FHN20G)	11.63	581.50	465.20
340276A	Hi V knob	1.63	81.50	65.20
341001A	Screw	1.38	69.00	55.20
342004A	Miniature	.97	48.50	38.80
342005A	Miniature*	1.16	58.00	46.40
342006	Watertight	5.90	295.00	236.00
342012A	Miniature	.97	48.50	38.80
342013A	Miniature*	1.16	58.00	46.40
342014A	Miniature	.97	48.50	38.80
342015A	Miniature*	1.16	58.00	46.40
342021A	FHN 26W	7.28	364.00	291.20
342022A	Miniature	.97	48.50	38.80
342023A	Miniature*	1.16	58.00	46.40
342024A	FHN 26G2	2.87	143.50	114.80
342025A	FHN 20G	2.97	148.50	118.80

*Dust-proof.

8AG PANEL FUSEHOLDERS

370011	R/F shld'd	$13.70	$685.00	$548.00
371001A	Screw	1.38	69.00	55.20
372001A	Finger	1.38	69.00	55.20

4AG PANEL FUSEHOLDERS

442006	Watertight	$6.33	$316.50	$253.20
442008A	Watertight	7.80	390.00	312.00

5AG PANEL FUSEHOLDERS

571006	Non-watertight	$3.26	$163.00	$130.40
571004	Watertight	3.29	164.50	131.60

3AG QUICK-CONNECT FUSEHOLDERS

L.F. No.	Description	Net Each	Net per 100	
			100	500
342028A	3/16" terminals	$1.16	$58.00	$46.40
342038A	3/16" terminals	1.16	58.00	46.40
342048A	3/16" terminals	1.16	58.00	46.40
342058A	1/16" terminals	1.16	58.00	46.40

Econ Plug Fuse

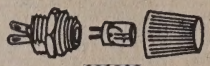
Clearsite Fuse

Microfuse Holders

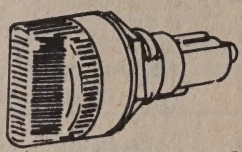
281001

281005

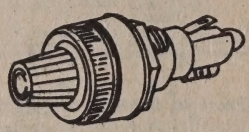
284000 Indicating



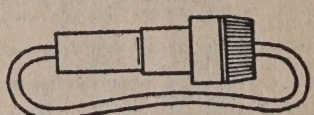
281006



Indicating Fuseholder 344(000) Series



Indicating Fuseholder 344(400) Series



Bakelite In-Line Fuse Holder Assembled with Lead

3AG INDICATING FUSEHOLDERS 344(000) SERIES

L.F. No.	Voltage	Net Each	Net per 100	
			100	500
344006A	2½–7 V	$7.00	$350.00	$280.00
344012A	7–16 V	7.00	350.00	280.00
344024A	16–32 V	7.00	350.00	280.00
344125A	100–125 V	4.30	215.00	172.00
344250A	200–250 V	4.30	215.00	172.00

3AG INDICATING FUSEHOLDERS 344(400) SERIES

Same as 344(000) Series but with different lens style.

L.F. No.	Voltage	Net Each	Net per 100	
			100	500
344401A	2½–7 V	$7.00	$350.00	$280.00
344402A	7–16 V	7.00	350.00	280.00
344403A	16–32 V	7.00	350.00	280.00
344404A	100–125 V	4.30	215.00	172.00
344405A	200–250 V	4.30	215.00	172.00

UNIVERSAL FUSE RETAINER

Comes with three different length springs for fuse sizes 7½ SFE thru 3AG.
L.F. No. 150145—Net Each..... $ 0.54
Net 100..$45.00; Lots 500, Net 100. 36.00

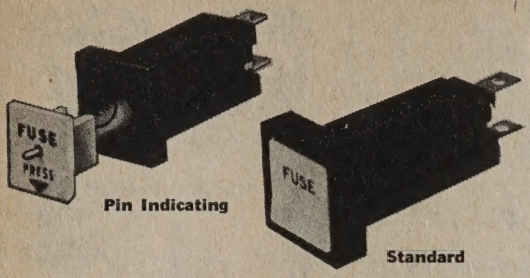
BAKELITE® IN-LINE FUSE HOLDERS ASSEMBLED WITH 19" LEAD

L.F. No.	Use with Fuses	Net Ea., Lots of 5	Net per 100	
			100	500
155004A	SFE 4, 1AG	$1.00	$60.00	$40.00
155006A	SFE 6	1.00	60.00	40.00
155007.5A	SFE 7½	1.00	60.00	40.00
155009A	SFE 9, 7AG	1.00	60.00	40.00
155014A	SFE 14	1.00	60.00	40.00
155020A	SFE 20, 3AG	1.00	60.00	40.00

®Bakelite Corp.

Fuseholders and Flashlights

LITTELFUSE LOW PROFILE FUSEHOLDERS



Pin Indicating — Standard

Low profile fuseholders ideal for front or rear panel installation on computers, photocopying and business equipment, aircraft and marine equipment. No mounting hardware required, snap-on the terminals and snap-in the holder. Available for 3AG Standard or Pin Indicating fuses. Molded phenolic resin body with high temperature thermo-plastic color-coded caps. Quick-connect solder type terminals are one piece brass electrotin plated; available in two widths. Dielectric withstanding voltage between terminals and terminals to ground at room temperature and 90% R.H. exceeds 1500 volts. Withstands 10–55 Hz at 0.06″ double amplitude vibrations; withstands 60G for 11 millisec vibration. Rated 15 amps at any voltage to 250 volts. **Size:** 1 57/64″ lg. x 39/64″ sq. body; 2 7/32″ sq. x 9/32″ d. cap. Mounts in 0.625″ sq. hole in 1/32″–1/8″ thick chassis panel.

LOW PROFILE ASSEMBLIES AND CAPS— BULK 50 PER PACK

L.F. Number	Description	Net Each	Net per 100	
			100	500
348--0	3AG Body Assembly	$0.88	$44.00	$35.20
34700-	3AG Pin Indicating Cap Assembly	.37	18.50	14.80
34800-	3AG Assembly Cap	.31	15.50	12.40

HOW TO ORDER LOW PROFILE FUSEHOLDERS

Six digit number is a coded description of fuseholder.

348 (A) 6 (B) 4 (C) 5 (D)

(A) **Series Number:** **348** for 3AG Standard fuses; **347** for Pin Indicating.

(B) **Terminal Style:** **6**, 3/16″ w. quick-connect and solder type; **8**, 1/4″ w. quick-connect and solder type.

(C) **Bezel Color:** Specify **1**, red; **2**, green; **3**, yellow; **4**, blue; **5**, white; **7**, black; **9**, gray.

(D) **Cap Color:** Specify **1**, red; **2**, green; **3**, yellow; **4**, blue; **5**, white; **7**, black; **9**, gray.

NOTE: To order a cap assembly **only** for 3AG Standard fuses, use 348 series number and insert a **0** in the terminal style and bezel color locations (348 **0 0** 1). To order a cap assembly for 3AG Pin Indicating fuses, use 347 series number and insert a **0** in the terminal style and bezel color locations (347 **0 0** 1). To order a body assembly **only**, use 348 for 3AG fuses series number and insert a **0** in the cap color location (348 8 5 **0**). The body assembly only for 3AG Pin Indicating fuses is identical to 348 series.

LOW PROFILE FUSEHOLDERS— INDIVIDUALLY CARDED

L.F. Number	Description	Net Each	Net per 100	
			100	500
347 Series	3AG Pin Indicating	$1.57	$78.50	$62.80
348 Series	3AG Standard	1.53	76.50	61.20

EVEREADY® FLASHLIGHTS

PREMIUM-QUALITY CAPTAIN® FLASHLIGHTS

Feature quality copper-nickel-chrome plating on heavy duty steel. Styled for beauty; built to last. Exclusive smooth action 3-way lock switch: off, flasher and on. End loading with ring hanger. Built-in bulb protector prevents shock damage. Batteries not supplied.

Eveready Model 9231 2-Cell Jr. Flashlight†—Uses two C cells and No. PR4 lamp. Net Each..... **$2.46**

Eveready Model 9251 2-Cell Spotlight†—Uses two D cells and No. PR2 lamp. Net Each..... **$2.46**

Eveready Model 9351 3-Cell Spotlight†—Uses three D cells and No. PR3 lamp. Net Each..... **$3.06**

Eveready Model 9352 3-Cell Searchlight—Uses three D cells and No. PR3 lamp. Net Each..... **$4.32**

Eveready Model 9652 6-Cell Convertible Searchlight—Case convertible to 3-cell type. Uses six D cells and No. PR18 lamp. Net Each..... **$4.99**

Eveready Model 9951 2-Cell Magnet Lite—Sculptured magnet switch. Uses two D cells and No. PR2 lamp. Net Each.. **$3.06**

†With lock switch.

CAPTAIN RECHARGEABLE FLASHLIGHT

Gives twice the light of standard 2-cell flashlights and more than 60 minutes of continuous bright light per charge. Powered by self-contained Eveready nickel-cadmium batteries. To recharge, just pull apart and plug power-pack prongs into any standard 110 VAC outlet; peak performance is restored overnight. Compact, reliable and built to last. Withstands severe abuse. Uniquely shaped to fit snugly in hand. Smooth-action 3-way rocker switch on/off flasher. Uses No. PR3 lamp. UL Listed.

Eveready Model 3300 Rechargeable Flashlight—Black only. Net Each..... **$11.97**

CAPTAIN PENLIGHT

Eveready Model 312 Captain Penlight—Handsome, tooled instrument provides bright, piercing beam of light. Has easy-to-use Touch Tip, pushbutton switch, spring-steel pocket clip, and lustrous copper-nickel-chrome plated steel case. Uses two No. 912 AAA cells and No. 224 lamp. Net Each, less batteries... **$1.12**

INDUSTRIAL FLASHLIGHTS

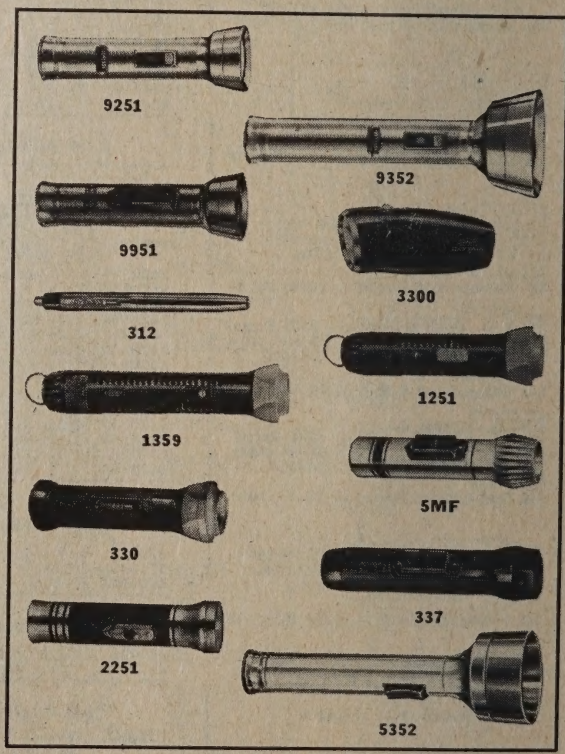
Molded tough, high density polyethylene insulated case withstands rugged use in extreme temperatures; impervious to water, gasoline, alcohol, and most acids, greases, and oils. Red safety-glow guard, contoured to prevent rolling, forms shock resistant shield around the lens and bulb. Built-in metal hanging ring; has replaceable slide-switch. Batteries not supplied.

Eveready Model 1251—Uses two D cells and No. PR6 lamp. Net Each..... **$2.86**

Eveready Model 1351—Uses three D cells and No. PR7 lamp. Net Each..... **$3.33**

Eveready Model 1259—Approved by U.S. Bureau of Mines; UL Listed. Uses two D cells and No. PR6 lamp. Net Each... **$4.00**

Eveready Model 1359—Approved by U.S. Bureau of Mines; UL Listed. Uses three D cells and PR7 lamp. Net Each..... **$4.40**



MAGNETIZED AND GENERAL-PURPOSE TYPES

Eveready No.	Description	Lamp No.	Battery		Net Each*
			No.	Size	
5MF	2-cell Magnet Lite	PR2	2	D	$1.99
330	2-cell Utility Lite (black)	PR2	2	D	1.19
337	2-cell Magnet Utility Lite	PR2	2	D	1.33
2251	2-cell spotlight	PR2	2	D	1.59
5352	3-cell Commander searchlight	PR3	3	D	2.99
5552	5-cell Commander searchlight	PR12	5	D	3.66

*Less batteries.

EVEREADY® Batteries

TRANSISTOR ENERGIZER BATTERIES FOR PORTABLE RADIO AND ELECTRONIC APPLICATIONS

No.	Voltage or Size	Overall Size, In. L. x W. x H.	Terminals and Voltages	Battery Weight	Unit Pkg.	Unit Lbs.	List Price Ea.	Net Each in Unit Pkg.
206‡	9	¾ dia. x 2	Flat Contacts, Neg. Recess. −, +9	1.2 oz.	6	0.5	$1.20	$0.80
216‡	9	1 1/32 x 2 1/32 x 1 2 9/32	Min. Snap −, +9	1.5 oz.	12	1.0	.89	.61
226‡	9	1 dia. x 1 15/16	Snap Type −, +9	2 oz.	6	0.6	1.50	1.01
228	12	1 dia. x 2 7/16	Snap Type −, +12	2.3 oz.	1	0.2	2.20	1.51
239	13½	1 21/64 x 1 1/32 x 2 11/16	Socket −, +13½	3 oz.	1	0.2	6.00	3.99
243	4½	1 13/32 x 1 11/32 x 2¾	Min. Snap −, +4½	4.5 oz.	1	0.3	5.50	3.66
246	9	1 13/32 x 1 11/32 x 2¾	Min. Snap −, +9	4.5 oz.	1	0.3	2.80	1.92
266	9	1 13/16 x 1 13/16 x 2 7/16	Snap Type −, +9	7 oz.	1	0.4	2.50	1.68
276	9	2 9/16 x 2 1/32 x 3 5/32	Snap Type −, +9	15 oz.	1	0.9	3.10	2.12
333‡	4½	.662 dia. x 1.965	Flat Contacts −, +4½	0.9 oz.	1	0.1	1.80	1.22
773	7½	3 29/32 x 2 7/32 x 3	5 Knurled Nut and Screws, 1 wire +1, −1.5, −3, −4.5, −6, −7.5	9 oz.	1	0.5	4.70	3.22
1015†	AA	9/16 dia. x 1 3/32	Flat Contacts −, +1½	0.6 oz.	24	0.9	.35	.22
2356N	9	2 3/16 x 1 5/32 x 6¼	Snap Type −, +9	11 oz.	1	0.8	4.40	3.01
2506	9	8 x 2 13/16 x 1 3/16	Socket −, +9	1 lb. 8 oz.	1	1.3	6.50	4.33
2709N	9	1 13/32 x 1 47/64 x 4 11/16	Snap Type −, +9	2.5 oz.	1	0.2	3.00	2.05
2713N	6	1 13/32 x 1 47/64 x 4 11/16	Min. Snap −, +6	3.5 oz.	1	0.2	4.00	2.66
2731N	4½	2 13/16 x 1¾ x 8 1/32	Socket −, +4½	1 lb. 9 oz.	1	1.8	6.30	4.20
2761N	9	2 9/32 x 1¼ x 7 31/32	Socket −, +9	1 lb. 3 oz.	1	1.4	10.50	6.99
2762N	9	2 13/16 x 1¾ x 8 1/32	Socket −, +9	1 lb. 9 oz.	1	1.7	8.00	5.34

SEALED RECHARGEABLE NICKEL-CADMIUM BATTERIES FOR PORTABLES AND ELECTRONIC APPLICATIONS

No.	Former No.	Voltage	Overall Size, In. L. x W. x H.	Terminals and Voltages	Unit Pkg.	Battery Weight	List Price Each	Net Each in Unit Pkg.
B1	N39	1.25	1.98 dia. x .394	Flat Contacts −, +1.25	1	1.6 oz.	$ 6.40	$ 4.27
B1T*	N39T	1.25	1.98 dia. x .406	Solder Tabs −, +1.25	1	1.6 oz.	6.75	4.50
BH1	N40	1.25	1.98 dia. x .396	Flat Contacts −, +1.25	1	2.1 oz.	7.60	5.07
BH1T*	N40T	1.25	1.98 dia. x .406	Solder Tabs −, +1.25	1	2.1 oz.	7.90	5.27
CF1	.....	1.25	1.034 dia. x 1.165	Flat Contacts −, +1.25	1	2.1 oz.	5.00	3.34
CF1T*	.....	1.25	1.034 dia. x 1.175	Solder Tabs −, +1.25	1	2.1 oz.	5.30	3.54
CH1	.....	1.25	1.034 dia. x 1.165	Flat Contacts −, +1.25	1	2.1 oz.	4.60	3.07
CH1T*	.....	1.25	1.034 dia. x 1.175	Solder Tabs −, +1.25	1	2.1 oz.	4.90	3.27
CF1.2	.....	1.25	0.900 dia. x 1.684	Flat Contacts −, +1.25	1	1.7 oz.	5.50	3.67
CF1.2T*	.....	1.25	0.900 dia. x 1.689	Solder Tabs −, +1.25	1	1.7 oz.	5.85	3.90
CH1.2	N53	1.25	0.900 dia. x 1.684	Flat Contacts −, +1.25	1	1.7 oz.	5.00	3.34
CH1.2T*	N53T	1.25	0.900 dia. x 1.689	Solder Tabs −, +1.25	1	1.7 oz.	5.30	3.54
CH1.8	N54	1.25	1.031 dia. x 1.969	Flat Contact −, Solder Tab +1.25	1	2.3 oz.	11.35	7.55
CH1.8T*	N54T	1.25	1.031 dia. x 1.974	Solder Tabs −, +1.25	1	2.3 oz.	11.65	7.77
B2	N41	1.25	1.984 dia. x .689	Flat Contacts −, +1.25	1	3.4 oz.	10.45	6.97
B2T*	N41T	1.25	1.984 dia. x .701	Solder Tabs −, +1.25	1	3.4 oz.	10.80	7.20
CH2.2	N55	1.25	1.344 dia. x 1.508	Flat Contacts −, +1.25	1	5.4 oz.	14.00	9.34
CH2.2T*	N55T	1.25	1.344 dia. x 1.518	Solder Tabs −, +1.25	1	5.4 oz.	14.30	9.54
B3	N43	1.25	1.984 dia. x .984	Flat Contacts −, +1.25	1	4.8 oz.	13.20	8.80
B3T*	N43T	1.25	1.984 dia. x .996	Solder Tabs −, +1.25	1	4.8 oz.	13.50	9.00
CF4	.....	1.25	1.294 dia. x 2.390	Flat Contact −, Solder Tab +1.25	1	5.4 oz.	12.65	8.44
CF4T*	.....	1.25	1.294 dia. x 2.410	Solder Tabs −, +1.25	1	5.4 oz.	13.00	8.67
CH4	N57	1.25	1.344 dia. x 2.406	Flat Contact −, Solder Tab +1.25	1	5.4 oz.	11.50	7.67
CH4T*	N57T	1.25	1.344 dia. x 2.416	Solder Tabs −, +1.25	1	5.4 oz.	11.85	7.90
R6	N76	1.25	2 31/32 x 1 45/64 x 3 45/64	Nut & Stud −, +1.25	1	15.2 oz.	25.80	17.21
RH7	N78	1.25	1 5/8 x 1 33/64 x 4 1/64	Nut & Stud −, +1.25	1	12.5 oz.	35.90	23.95
R11	N79	1.25	3 1/32 x 1 1/16 x 4 53/64	Nut & Stud −, +1.25	1	1 lb. 12 oz.	36.20	24.15
R15	N81	1.25	3 1/32 x 1 25/64 x 4 53/64	Nut & Stud −, +1.25	1	2 lb. 3 oz.	43.55	29.05
RH15	N82	1.25	3 1/32 x 1 3/16 x 4 1/32	Nut & Stud −, +1.25	1	1 lb. 10 oz.	61.10	40.75
B20	N22	1.25	.457 dia. x .213	Flat Contacts −, +1.25	1	0.4 oz.	2.85	1.90
B20T*	N22T	1.25	.457 dia. x .223	Solder Tabs −, +1.25	1	0.4 oz.	3.20	2.13
R23	N85	1.25	3 1/32 x 2 1/64 x 4 53/64	Nut & Stud −, +1.25	1	3 lb. 2 oz.	60.50	40.35
B50	N24	1.25	.610 dia. x .235	Flat Contacts −, +1.25	1	0.12 oz.	2.20	1.47
B50T*	N24T	1.25	.610 dia. x .245	Solder Tabs −, +1.25	1	0.12 oz.	2.55	1.70
N64	.....	15	2.81 x 2.81 x 1.32	Recessed Flat Contacts −, +15	1	13 oz.	95.05	63.40
N65	.....	13.75	7.32 x 1.46 x 3.10	Socket −, +13.75	1	1 lb. 11 oz.	158.20	105.52
N67	.....	6.25	1 13/64 x 1 33/64 x 4 13/64	Wire Leads −, +6.25	1	8.3 oz.	49.10	32.75
N70	.....	6.25	3 7/8 x 1 9/16 x 4 1/32	Wire Leads −, +6.25	1	1 lb. 12 oz.	67.45	44.99
OB90*	.....	1.25	1.012 x .559 x .236	Flat Contacts −, +1.25	1	0.3 oz.	3.75	2.50
OB90T*	.....	1.25	1.012 x .559 x .246	Solder Tabs −, +1.25	1	0.3 oz.	4.10	2.73
N86	.....	12.5	4 1/32 x 2 1/32 x 2 7/16	Knurl, Nut and Screw −, +12.5	1	1 lb. 8 oz.	60.05	40.05
N88	.....	8.75	1 3/64 x 3 9/64 x 1 13/16	Min. Snap −, +8.75	1	1.5 oz.	12.45	8.30
N91	.....	6.25	5 1/32 x 1 1/32 x 2 31/64	Plastic Screw −, +6.25	1	10.0 oz.	35.80	23.88
B100	N26	1.25	.992 dia. x .252	Flat Contacts −, +1.25	1	0.32 oz.	2.40	1.60
B100T*	N26T	1.25	.992 dia. x .264	Solder Tabs −, +1.25	1	0.32 oz.	2.70	1.80
B150	N28	1.25	.992 dia. x .272	Flat Contacts −, +1.25	1	0.4 oz.	2.50	1.67
B150T*	N28T	1.25	.992 dia. x .284	Solder Tabs −, +1.25	1	0.4 oz.	2.80	1.87
CF150	.....	1.25	0.475 dia. x 1.135	Flat Contacts −, +1.25	1	0.4 oz.	3.20	2.13
CF150T*	.....	1.25	0.475 dia. x 1.145	Solder Tabs −, +1.25	1	0.4 oz.	3.50	2.33
CH150	.....	1.25	0.475 dia. x 1.135	Flat Contacts −, +1.25	1	0.4 oz.	2.90	1.93
CH150T*	.....	1.25	0.475 dia. x 1.145	Solder Tabs −, +1.25	1	0.4 oz.	3.25	2.17
B225	N32	1.25	.992 dia. x .351	Flat Contacts −, +1.25	1	0.44 oz.	2.55	1.70
B225T*	N32T	1.25	.992 dia. x .363	Solder Tabs −, +1.25	1	0.44 oz.	2.85	1.90
BH225	N33	1.25	.992 dia. x .358	Flat Contacts −, +1.25	1	0.4 oz.	2.80	1.87
BH225T*	N33T	1.25	.992 dia. x .37	Solder Tabs −, +1.25	1	0.4 oz.	3.10	2.07
CF225	.....	1.25	0.675 dia. x 0.646	Flat Contacts −, +1.25	1	0.8 oz.	3.20	2.13
CF225T*	.....	1.25	0.675 dia. x 0.652	Solder Tabs −, +1.25	1	0.8 oz.	3.50	2.33
CH225	.....	1.25	0.675 dia. x 0.646	Flat Contacts −, +1.25	1	0.8 oz.	2.90	1.93
CH225T*	.....	1.25	0.675 dia. x 0.652	Solder Tabs −, +1.25	1	0.8 oz.	3.25	2.17
B400	.....	1.25	0.992 dia. x 0.571	Flat Contacts −, +1.25	1	1.2 oz.	4.90	3.27
B400T*	.....	1.25	0.992 dia. x 0.583	Solder Tabs −, +1.25	1	1.2 oz.	5.20	3.47
B450	N36	1.25	1.697 dia. x .315	Flat Contacts −, +1.25	1	1.2 oz.	3.75	2.50
B450T*	N36T	1.25	1.697 dia. x .327	Solder Tabs −, +1.25	1	1.2 oz.	4.10	2.73
CF450	.....	1.25	0.675 dia. x 1.116	Flat Contacts −, +1.25	1	0.8 oz.	4.45	2.97
CF450T*	.....	1.25	0.675 dia. x 1.122	Solder Tabs −, +1.25	1	0.8 oz.	4.80	3.20
CH450	.....	1.25	0.675 dia. x 1.116	Flat Contacts −, +1.25	1	0.8 oz.	4.10	2.73
CH450T*	.....	1.25	0.675 dia. x 1.122	Solder Tabs −, +1.25	1	0.8 oz.	4.40	2.93
BH500	N38	1.25	1.36 dia. x .394	Flat Contacts −, +1.25	1	1 oz.	4.50	3.00
BH500T*	N38T	1.25	1.36 dia. x .416	Solder Tabs −, +1.25	1	1 oz.	4.85	3.23
CF500	.....	1.25	0.563 dia. x 1.974	Flat Contacts −, +1.25	1	0.8 oz.	3.80	2.53
CF500T*	.....	1.25	0.563 dia. x 1.969	Solder Tabs −, +1.25	1	0.8 oz.	4.15	2.77
CH500	.....	1.25	.563 dia. x 1.969	Flat Contacts −, +1.25	1	0.8 oz.	3.50	2.33
CH500T*	.....	1.25	.563 dia. x 1.974	Solder Tabs −, +1.25	1	0.8 oz.	3.80	2.53
1007	.....	10	6 13/32 x 3 7/32 x 3 1/8	Socket −, +10	1	3 lb. 8 oz.	95.65	63.80
1007W	.....	10	6 13/32 x 3 7/32 x 3 1/8	Wire Leads −, +10	1	3 lb. 8 oz.	102.55	68.40

*Have tabs to permit soldering leads to battery without damage. †Also available in Blister Pack of 4. ‡Also available in Blister Pack.

EVEREADY® Batteries

SPECIAL BATTERY TYPES FOR RADIOS, ELECTRONIC EQUIPMENT, PHOTOFLASH AND OTHER APPLICATIONS

"Eveready" No.	Voltage or Size	Overall Dimensions, Inches L. x W. x H.	Terminals and Voltages	Battery Weight	Unit Pkg. Qty.	Unit Wt. Lbs.	List Price Each	Net Ea. in Unit Pkg.
S13*	1½	.310 dia. x .210	Flat Contacts −,+1½	0.04 oz.	6	0.02	$ 0.555	$ 0.37
EPX30†	3	.955 dia. x .480	Flat Contacts −,+3	0.5 oz.	6	0.3	1.85	1.23
T35‡	C	1 1/32 dia. x 1 15/16	Flat Contacts −,+1½	1.4 oz.	6	0.6	.60	.39
T50‡	D	1 11/32 dia. x 2 13/32	Flat Contacts −,+1½	3.3 oz.	6	1.2	.75	.48
S312*	1½	.310 dia. x .140	Flat Contacts −,+1½	0.02 oz.	6	0.02	.535	.36
425P	22½	1 23/64 x 1 1/32 x 3 15/16	Socket −,+22½	4.1 oz.	1	0.3	7.20	4.93
455P	45	2 21/32 x 1 1/64 x 3 29/32	Socket −,+45	8.6 oz.	1	0.5	4.30	2.95
460K#	45	1 57/64 x 1 1/8 x 2.43	Flat Contacts −,+45	5.3 oz.	1	0.8	5.50	3.77
468	67½	2 13/16 x 1 3/8 x 3 45/64	Snap Type −,+67½	12 oz.	1	0.8	7.50	5.14
489	225	4 11/32 x 2 11/16 x 4 3/16	Socket −,+225	2 lb. 12 oz.	2	2.7	14.30	9.79
491	240	2 19/32 x 1 5/16 x 4½	Flat Recessed & Socket −,+240	13 oz.	1	0.8	13.80	9.45
492	225	3 9/16 x 2 29/32 x 4 29/32	Socket −,+180,+225	2 lb. 8 oz.	1	2.5	22.50	14.99
493	300	2 11/16 x 2 7/32 x 3 29/32	Pinjacks −,+300	14.5 oz.	1	1.2	17.90	12.26
496	450	6¾ x 3 x 5	Socket −,+450	5 lb. 4 oz.	1	5.7	32.90	22.53
497	510	3 x 1 19/32 x 5 5/8	Flat Recessed −,+180,+510	1 lb. 10 oz.	1	1.6	24.20	16.58
621	3	2 9/16 dia. x 1 31/32	Knurled Nut & Screw −,+3	4 lb. 10 oz.	1	4.5	10.50	7.19
812§	AAA	13/32 dia. x 1¾	Flat Contacts −,+1.5	0.3 oz.	12	0.2	.35	.22
815§	AA	9/16 dia. x 1 31/32	Flat Contacts −,+1.5	0.6 oz.	24	1.0	.35	.22
EPX825†§	1.5	.905 dia. x .228	Flat Contacts −,+1.5	0.026 oz.	24	0.04	.90	.585
835§	C	1 1/32 dia. x 1 15/16	Flat Contacts −,+1.5	1.4 oz.	24	2.3	.45	.28
850	D	1 11/32 dia. x 2 13/32	Flat Contacts −,+1.5	3.3 oz.	12	2.1	.45	.28

"B" BATTERIES FOR PORTABLE RECEIVERS

"Eveready" No.	Voltage or Size	Overall Dimensions, Inches L. x W. x H.	Contacts	List Price Each	Net Each *
411	15	1 1/32 x 5/8 x 1 29/64	Flat	$1.70	$1.16
412	22½	1 1/32 x 5/8 x 2	Flat	2.20	1.51
413	30	1 1/32 x 5/8 x 2 9/16	Flat	2.10	1.44
415	45	1 3/64 x 5/8 x 3 11/16	Snap♦	3.00	2.05
416	67½	1 21/64 x 63/64 x 3½	Snap♦	3.60	2.47
417	15	1 15/16 x 3 1/32 x 1 9/16	Flat	3.70	2.53
420	22½	1 5/16 x 3 1/32 x 2 3/16	Flat	4.30	2.95
430	30	1 5/16 x 1 x 2 13/16	Flat	4.60	3.06
437	75	1 15/16 x 1 15/32 x 6 15/32	Snap	8.50	5.67
455	45	2 21/32 x 1 x 3 11/16	Snap	3.70	2.53
457	67½	2 13/16 x 1 3/8 x 2½	Snap	6.10	4.18
467	67½	2 13/16 x 1 3/8 x 3 45/64	Snap	4.30	2.95
477	67½	1 29/32 x 63/64 x 5 7/16	Snap	$ 6.10	$4.18
479	90	1 31/32 x 1 1/32 x 7 15/32	Snap	7.70	5.27
482	45	3 13/32 x 1 27/32 x 5½	Socket	6.60	4.52
484	45	3 31/32 x 2 1/32 x 5 5/16	Socket	8.70	5.96
487	45	5 1/8 x 2 1/16 x 7¼	Socket	8.30	5.68
490	90	3 23/32 x 1 3/8 x 3 45/64	Snap	6.10	4.18
495	90	1 15/16 x 1 15/32 x 7 1/8	Snap	8.70	5.79
504	15	3 9/64 x 1 9/32 x 1 3/8	Flat	1.90	1.30
505	22½	1 9/32 x 1 9/32 x 1.975	Flat	2.20	1.51
506	30	1 13/64 x 5/8 x 1 27/64	Flat	12.00	8.22
507	30	3 9/64 x 1 9/32 x 2.605	Flat	2.50	1.71
738	45	3 x 2 5/16 x 4 1/8	Socket	5.50	3.77

"A" BATTERIES FOR PORTABLE RECEIVERS

"Eveready" No.	Voltage or Size	Overall Dimensions, Inches L. x W. x H.	Contacts	List Price Each	Net Each *
707	7½	2 9/16 x 2 1/32 x 2 13/16	Snap	$3.60	$2.47
713	7½	3 29/32 x 5 3/64 x 2 27/32	Socket	5.50	3.77
717	7½	2 5/32 x 1 15/16 x 3 1/32	Socket	2.80	1.92
718	6	3 29/32 x 2 3/4 x 5/16	Socket	6.90	4.60
720	1½	2 25/32 x 1 13/32 x 3 1/32	Socket	3.50	2.39
724	6	1 7/32 x 1 7/32 x 2 1/32	Flat	3.30	2.26
726	4½	4 3/32 x 1 7/16 x 2 15/16	Socket	4.00	2.74
736	4½	3 15/16 x 1 5/16 x 4	Socket	3.90	2.67
741	1½	3 25/32 x 2 1/16 x 5 3/8	Socket	6.00	3.98
742	1½	2 5/8 x 2 5/8 x 3 27/32	Socket	$3.10	$2.12
743	1½	3 13/16 x 2 5/8 x 4 1/32	Socket	5.50	3.66
744	6	2 5/8 x 2 5/8 x 3 27/32	Socket	2.80	1.92
746	4½	3 15/16 x 1 15/16 x 4 21/32	Socket	5.20	3.47
960P	1½	1 11/32 dia. x 4 1/16	Socket	2.50	1.72
964	1½	1 11/32 dia. x 4 5/32	Flat	1.90	1.26
1035§	C	1 1/32 dia. x 1 15/16	Flat	.45	.28
1050§	D	1 11/32 dia. x 2 13/32	Flat	.45	.28

"A-B" PACKS FOR PORTABLES AND FARM RECEIVERS

729	1¼, 90	3 27/32 x 2 7/32 x 7 13/16	Socket	$15.00	$10.00	756	7½, 9, 90	8 7/8 x 2 1/8 x 3 25/32	Socket	$16.00	$10.66
752	9, 90	14 1/16 x 2 1/16 x 4 1/16	Plug	21.00	13.99	757	9, 90	9 7/32 x 2 23/32 x 4 7/32	Plug	22.00	14.65
753	7½, 9, 90	9 7/32 x 2 23/32 x 4 5/16	Socket	21.90	14.61	759	1½, 90	15 1/16 x 4 1/32 x 6 15/16	Socket	26.00	17.34
755	6, 7½, 75	8 5/16 x 3¼ x 2 7/16	Socket	15.50	10.34						

CARBON-ZINC LANTERN AND FLASHER BATTERIES

"Eveready" No.	Voltage /Size	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. in Unit *
409	6	2 5/8 x 2 5/8 x 4 13/32	1	##	##
484	45	3 31/32 x 2 17/32 x 5 5/16	1	$8.70	$5.96
509	6	2 5/8 x 2 5/8 x 4 13/32	1	2.18	1.45
510F	6	2 5/8 x 2 5/8 x 4 13/32	1	2.28	1.52
510S	6	2 5/8 x 2 5/8 x 4 5/16	1	2.28	1.52
520†	6	5 17/32 x 4 21/32 x 2 21/32	1	7.50	5.00
646	69	2 5/16 x 2 1/8 x 87/64	2	7.50	5.00
731	6	5 11/32 x 2 27/32 x 4 15/16	1	4.70	3.14
732	12	5 11/32 x 2 27/32 x 4 15/16	1	5.80	3.86
2744N	6	2 5/8 x 2 5/8 x 3 27/32	1	2.18	1.45
2745N	6	2 5/8 x 2 5/8 x 4 13/32	1	2.18	1.45
2746N	6	2 5/8 x 2 5/8 x 4 5/16	1	2.18	1.45
2780N	12	5 11/32 x 2 27/32 x 4 5/32	1	7.50	5.00

CARBON-ZINC NO. 6 AND "HOT SHOT"® BATTERIES

IS6**	1½	2 5/8 dia. x 6 21/32	1	$ 2.58	$ 1.72
IF6**	1½	2 5/8 dia. x 6 21/32	1	2.58	1.72
GS6††	1½	2 5/8 dia. x 6 21/32	1	2.58	1.72
GF6††	1½	2 5/8 dia. x 6 21/32	1	2.58	1.72
RS6‡‡	1½	2 5/8 dia. x 6 21/32	1	2.58	1.72
RF6‡‡	1½	2 5/8 dia. x 6 21/32	1	2.58	1.72
1461••	6	10 7/16 x 2 23/32 x 7 7/32	1	8.38	5.59
1462••	6	5¼ x 5¼ x 7¼	1	10.90	7.25
1463••	12	10 7/16 x 2 23/32 x 7 7/32	1	14.30	9.53
1562••	7½	7 27/32 x 4 31/32 x 7 7/32	1	12.90	8.60
1662••	9	7 13/16 x 5 9/32 x 7¼	1	14.20	9.45
1862••	12	10¼ x 5¼ x 6 5/8	1	20.20	13.45

CARBON-ZINC SPECIAL LIGHTING AND HOBBY BATTERIES

706	6	8 5/16 x 2 13/16 x 6 7/16	1	$ 9.90	$6.60
711	F	2 5/8 x 1 5/16 x 4 1/32	1	2.30	1.58
715	7½	7¼ x 4 1/16 x 6 7/16	1	10.30	6.86
716	9	8 37/64 x 4 1/16 x 6 7/16	1	11.90	7.92
735	1½	2 5/8 x 2 5/8 x 4 5/16	1	2.45	1.63
789	3	5¼ x 1 13/32 x 3 11/32	1	##	##
799	49½	8 x 4 3/8 x 8 5/8	1	##	##

SPECIAL BATTERIES FOR RADIOS, ELECTRONIC EQUIPMENT, TEST INSTRUMENTS, AND OTHER APPLICATIONS

"Eveready" No.	Voltage /Size	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. in Unit Pkg.
W350	45	3 1/16 x 1 7/8 x 4 31/32	1	##	##
W352	3	2 5/8 x 1 5/16 x 4 1/32	1	$ 4.10	$ 2.81
W353	1½	2 19/32 x 1 3/8 x 4 5/32	1	2.60	1.78
W356	3	2 5/8 x 2 5/8 x 4 9/16	1	6.60	4.52
W357	3	3 25/32 x 2 11/16 x 5 13/16	1	5.50	3.77
W359	45	3 9/16 x 2 1/4 x 4 1/2	1	##	##
W361	103½	1 3/8 x 1 3/8 x 11 23/32	1	##	##
W362	7½	2 27/32 x 1 9/32 x 1 29/32	1	##	##
W363F**	45	8 1/32 x 4 1/16 x 7 5/8	1	##	##
W364F	45	8 1/8 x 4 7/16 x 7 11/16	1	34.10	23.36
W365F**	45	8 5/16 x 2 15/16 x 7 5/8	1	##	##

FLASHLIGHT BATTERIES—FOR TOYS, GAMES, ETC.

904•	N	0.455 dia. x 1.180	6	$0.20	$0.13
912§	AAA	13/32 dia. x 1¾	12	.30	.195
915§	AA	9/16 dia. x 1 31/32	24	.30	.195
935▲	C	1 1/32 dia. x 1 15/16	24	.40	.2625
950▲	D	1 11/32 dia. x 2 13/32	48	.40	.2625
1150§	D	1 11/32 dia. x 2 13/32	48	##	##

CARBON-ZINC INSTRUMENT BATTERIES

703	4½	2 7/16 x 2 7/32 x 3 1/16	1	$ 2.80	$ 1.92
714	4½	3 31/32 x 1 11/32 x 3¾	1	4.40	3.01
750	3	1 7/32 x 5/8 x 2 21/32	1	3.30	2.26
751	4½	1 25/32 x 5/8 x 2 21/32	1	4.70	3.14
761T	4½	4 1/16 x 1 13/32 x 3 1/32	1	7.98	5.47
762S	45	4 3/32 x 2 9/16 x 5 7/16	1	8.30	5.68
763	22½	3 1/2 x 2 3/32 x 3 1/16	1	3.90	2.67
766T	22½	6 13/16 x 4 3/16 x 3 5/16	1	16.50	11.30
778	22½	4 x 2 7/16 x 3 1/8	1	12.10	8.29
781	4½	2 7/16 x 2 7/32 x 3	1	2.80	1.92

No. 1807 Charger—List Ea.... **$23.05**; Net Ea.... **$15.37***
No. 07867 Cable—List Ea.... **2.30**; Net Ea.... **1.53***

*Silver chem. system. †Alkaline. ‡For electric clocks. #Includes one No. 460 battery and one No. 428 lamp. §Available in Blister Pack of 2. ▲Available in 2-Pak and 4-Pak. •Available in Blister Pack of 4. *In unit pkg. of 1. ▪In unit pkg. of 6. ▫In unit pkg. of 24. ‡In unit pkg. of 48. ♦Miniature. **Ignitor® gen. purpose 6: IS6=screw terms.; IF6, Fahnstock. ††Gray Label® 6 telephone: GS6=screw terms.; GF6, Fahnstock. ‡‡RR and indust. 6: RS6=screw terms.; RF6, Fahnstock. ##**Prices on Request.** ••Hot Shot. ▪▪Fahnstock terms.; for plugs, order WP-363P or -365P.

EVEREADY® Batteries

MERCURY BATTERIES FOR RADIO, ELECTRONIC AND INDUSTRIAL APPLICATIONS

"Eveready" No.	Voltage	Overall Dimensions, Inches L. x W. x H.	Terminals and Voltages	Battery Weight	Unit Pkg. Qty.	Unit Wt., Lbs.	List Price Each	Net Each in Unit Pkg.
E1*†	1.4	.625 dia. x .645	Flat Contacts −,+1.4	0.43 oz.	4	0.10	$ 1.08	$ 0.72
EPX1	1.35	.625 dia. x .650	Flat Contacts −,+1.35	0.43 oz.	4	0.10	1.50	1.00
E3†	1.35	.985 dia. x .660	Flat Contacts −,+1.35	1.00 oz.	4	0.30	2.36	1.57
E4†	1.35	1.195 dia. x .660	Flat Contacts −,+1.35	1.6 oz.	4	0.50	3.02	2.01
EPX4	5.6	.662 dia. x 1.965	Flat Contacts −,+5.6	1.2 oz.	1	0.20	3.90	2.55
EPX6	4.05, 8.1	.662 dia. x 4.415	Flat Contacts −,+4.05, +8.1	1.6 oz.	1	0.25	5.40	3.60
E9†	1.4	.550 dia. x 1.968	Flat Contacts −,+1.4	1.05 oz.	4	0.30	1.24	.83
E12*†	1.4	.640 dia. x 1.968	Flat Contacts −,+1.4	1.4 oz.	2	0.30	2.10	1.40
E13	1.4	.310 dia. x .210	Flat Contacts −,+1.4	0.04 oz.	6	0.02	.48	.32
EPX13	1.35	.615 dia. x .238	Flat Contacts −,+1.35	0.14 oz.	4	0.20	1.20	.80
EPX14	2.7	.655 dia. x .607	Flat Contacts −,+2.7	0.3 oz.	4	0.10	2.40	1.60
EPX23	5.4	.600 dia. x .787	Flat Contacts −,+5.6	0.12 oz.	6	0.1	1.24	.83
EPX25	4.05	.660 dia. x .845	Flat Contacts −,+4.05	0.45 oz.	2	0.10	3.00	2.00
EPX29	4.05	.475 dia. x .680	Flat Contacts −,+4.05	0.3 oz.	2	0.10	2.60	1.69
E41	1.4	.455 dia. x .162	Flat Contacts −,+1.4	0.07 oz.	6	0.03	.50	.335
E42*†	1.4	1.195 dia. x 2.390	Flat Contacts −,+1.4	5.85 oz.	1	0.40	6.10	4.07
E113†	4.05	.661 dia. x .845	Flat Contacts −,+4.05	0.43 oz.	2	1.4	3.90	2.55
E114†	5.4	.661 dia. x 1.080	Flat Contacts −,+5.4	0.57 oz.	2	1.4	4.30	2.81
E115*†	7.0	.661 dia. x 1.315	Flat Contacts −,+7	0.71 oz.	2	1.4	4.90	3.00
E126†	8.4	.744 dia. x 2	Flat Contacts −,+8.4	1.65 oz.	6	0.13	3.00	2.00
E132*†	2.8	.661 dia. x 1.315	Flat Contacts −,+2.8	0.94 oz.	2	0.14	2.06	1.37
E133*†	4.2	.661 dia. x 1.965	Flat Contacts −,+4.2	1.42 oz.	6	1.10	3.00	2.00
E134*†	5.6	.661 dia. x 2.615	Flat Contacts −,+5.6	1.89 oz.	2	0.30	3.30	2.20
E135*†	7.0	.661 dia. x 3.265	Flat Contacts −,+7	2.37 oz.	2	0.40	4.30	2.80
E136*†	8.4	.661 dia. x 3.915	Flat Contacts −,+8.4	2.86 oz.	2	0.40	4.34	2.89
E137*†	9.8	.661 dia. x 4.565	Flat Contacts −,+9.8	3.34 oz.	1	0.20	5.90	3.72
E145†	7.0	.660 dia. x 1 3/16	Flat Contacts −,+7	0.7 oz.	2	0.20	4.20	2.74
E146X	8.4	1.031 x .660 x 1 3/4	Min. Snap −,+8.4	1.6 oz.	6	0.50	2.20	1.47
E152*†	2.8	.505 dia. x 1.139	Flat Contacts −,+2.8	0.4 oz.	2	0.20	1.74	1.16
E153*†	4.2	.505 dia. x 1.708	Flat Contacts −,+4.2	0.6 oz.	2	0.20	2.90	1.89
E162†	2.7	.661 dia. x 0.887	Flat Contacts −,+2.7	0.58 oz.	2	0.20	3.15	2.05
E163*†	4.2	.661 dia. x 1.327	Flat Contacts −,+4.2	0.9 oz.	2	0.20	3.30	2.20
E164*†	5.6	.661 dia. x 1.767	Flat Contacts −,+5.6	1.2 oz.	6	1.0	3.00	2.00
E165*†	7.0	.661 dia. x 2.207	Flat Contacts −,+7	1.5 oz.	2	0.20	3.90	2.60
E169†	12.6	.662 dia. x 3 3/4	Flat Contacts −,+12.6	4.2 oz.	2	0.18	7.30	4.75
E175†	7.0	1/2 dia. x 1 3/32	Flat Contacts −,+7	1 oz.	1	0.10	2.70	1.80
E177	9.0	35/64 dia. x 1 23/32	Min. Snap −,+9.0	0.8 oz.	1	0.04	2.70	1.80
E233*†	4.2	1.005 dia. x 1 31/32	Flat Contacts −,+4.2	3 oz.	1	0.20	6.00	3.89
E234*†	5.6	1.005 dia. x 2.578	Flat Contacts −,+5.6	4.2 oz.	1	0.50	7.95	5.17
E235N†	6.75	1 1/64 dia. x 3 5/6	Flat Contacts −,+6.75	5 oz.	1	0.50	10.65	6.92
E236N†	8.1	1.005 dia. x 3.921	Flat Contacts −,+8.1	6.3 oz.	1	0.50	12.65	8.23
E286	8.4	1 dia. x 1 15/16	Flat Contacts −,+8.4	1.6 oz.	1	0.10	3.00	2.00
E289	12.6	1 dia. x 2 13/32	Snap Type −,+12.6	3.6 oz.	1	0.20	6.00	4.00
E312†	1.4	.310 dia. x 0.140	Flat Contacts −,+1.4	0.03 oz.	6	0.03	.48	.32
323BP▲	1.35	.310 dia. x .210	Flat Contacts −,+1.35	0.05 oz.	6	0.045	1.85	1.20
343BP▲	1.35	.455 dia. x .138	Flat Contacts −,+1.35	0.05 oz.	6	0.05	1.85	1.20
E400*†	1.4	.455 dia. x 0.135	Flat Contacts −,+1.4	0.04 oz.	6	0.03	.52	.35
E401*†	1.4	.470 dia. x 1.130	Flat Contacts −,+1.4	0.4 oz.	2	0.10	1.20	.80
E450†	1.35	.455 dia. x .570	Flat Contacts −,+1.35	0.18 oz.	4	0.25	1.70	1.09
E502†	1.35	.550 dia. x 1.968	Flat Contacts −,+1.35	1.05 oz.	2	0.20	2.35	1.52
E520†	1.4	.495 dia. x 0.286	Flat Contacts −,+1.4	0.07 oz.	6	0.05	.38	.25
E601†	1.35	.627 dia. x 1.140	Flat Contacts −,+1.35	1.22 oz.	2	0.20	2.35	1.52
E625*†	1.4	.615 dia. x 0.238	Flat Contacts −,+1.4	0.15 oz.	4	0.05	.76	.51
EPX625	1.35	.615 dia. x 0.238	Flat Contacts −,+1.4	0.15 oz.	4	0.10	1.20	.80
E630*†	1.4	.615 dia. x 0.238	Flat Contacts −,+1.4	0.17 oz.	4	0.05	.76	.51
E640*†	1.4	.625 dia. x 0.440	Flat Contacts −,+1.4	0.28 oz.	2	0.15	1.10	.73
EPX640	1.35	.625 dia. x 0.440	Flat Contacts −,+1.35	0.13 oz.	4	0.10	1.24	.83
E675†	1.4	.455 dia. x 0.205	Flat Contacts −,+1.4	0.09 oz.	6	0.01	.575	.385
EPX675	1.35	.455 dia. x 0.205	Flat Contacts −,+1.35	0.09 oz.	6	0.05	1.08	.72
E302157	1.35	2 1/2 x 1 3/8 x 4 1/4	Socket −,+1.35	13.5 oz.	1	1.00	23.95	15.56
E302250	9.45	1 1/16 dia. x 1 23/32	Tabs −,+9.45	1 oz.	1	0.10	6.00	3.90
E302351	5.4	1 1/16 dia. x 2 5/8	Flat Contacts −,+5.4	4.5 oz.	1	0.30	13.00	8.46
E302358	10.8	3/4 dia. x 2 5/32	Wire Leads −,+10.8	1.3 oz.	1	0.10	8.00	5.19
E302362	16.2	2 3/32 dia. x 3 5/32	Wire Leads −,+16.2	1.8 oz.	1	0.10	10.65	6.92
E302435	6.75	1 1/16 dia. x 1 1/2	Flat Contacts −,+6.75	0.75 oz.	1	0.10	6.65	4.32
E302462	97.2	2 13/16 x 1 17/32 x 6 3/8	Wire Leads −,+97.2	2 lb.	1	2.0	74.50	48.44
E302465	47.25	2 3/16 dia. x 3 3/4	Wire Leads −,+47.25	1 lb.	1	1.0	47.90	31.12
E302478	9.8	1 1/4 dia. x 3 5/8	Flat Contacts −,+9.8	1 oz.	1	0.6	15.30	9.96
E302497	6.75	1 1/16 dia. x 4 3/16	Screw −,+6.75	9 oz.	1	0.4	18.65	12.12
E302579	29.7	1 13/32 x 3/4 x 3 3/16	Wire Leads −,+29.7	6 oz.	1	0.3	23.95	15.56
E302580	27.0	2 23/32 x 2 23/32 x 3 29/32	Sockets −,+27	5 oz.	1	0.3	63.85	41.51
E302642	7.0	1 9/32 dia. x 2 5/8	Flat Contacts −,+7	2 lb. 1.6 oz.	1	2.0	11.30	7.35
E302651	1.35	1 5/16 dia. x 2 7/16	Special Leads −,+1.35	6 oz.	1	0.40	9.30	6.05
E302702	2.8	1 1/8 dia. x 1 5/8	Wire Leads −,+2.7	6.14 oz.	1	0.40	7.95	5.17
E302904	5.4	1 11/32 dia. x 2 31/32	Wire Leads −,+5.4	2 oz.	1	0.20	14.65	9.52
E302905	6.75	1 11/32 dia. x 3 19/32	Wire Leads −,+6.75	6 oz.	1	0.40	16.75	10.89
E302907	9.45	1 5/16 dia. x 4 7/8	Wire Leads −,+9.45	9 oz.	1	0.50	19.36	12.91
E302908	10.8	1 11/32 dia. x 5 5/16	Wire Leads −,+10.8	11.6 oz.	1	0.60	21.78	14.52
E303145	8.4	2 3/16 x 7/8 x 4 7/16	Snap Type −,+8.4	12 oz.	1	0.80	15.30	9.95
E303219	9.8	.515 dia. x 1 5/8	Flat Contacts −,+9.8	9.34 oz.	1	0.6	4.00	2.60
E303236	4.2	2 3/32 x 2 3/32 x 1 29/32	Flat Contacts −,+4.2	1 oz.	1	0.1	2.65	1.73
E303314	16.8	2.81 x 2.85 x 1.320	Recessed Flat Contacts −,+16.8	1.28 oz.	1	0.1	2.65	1.73
E303394	11.2	2 1/2 x 1 3/4 x 2.28	Snap Type −,+11.2	12.8 oz.	1	0.80	19.35	12.58
E303462	15.4	2.14 x 2.12 x 1.8	Recessed Flat Contacts −,+15.4	14 oz.	1	0.80	22.60	14.70
E303496	4.2	.655 dia. x 1.330	Flat Contacts −,+4.2	1 lb. 0.8 oz.	1	1.50	21.80	14.18
				0.87 oz.	1	0.10	2.35	1.53

PREMIUM SERVICE ALKALINE BATTERIES FOR RADIO, PHOTOFLASH, TOYS, HIGH DRAIN ELECTRONIC APPLICATIONS

"Eveready" No.	Voltage	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit Pkg.
S41•	1.5	.455 dia. x .165	6	$0.575	$0.385
S76•	1.5	.455 dia. x .200	6	.67	.445
E90†	1.5	.470 dia. x 1.13	12	.70	.455
E91‡#	1.5	9/16 dia. x 1 31/32	24	.75	.485
E92‡	1.5	.410 dia. x 1.745	12	.70	.455
E93‡	1.5	1 1/32 dia. x 1 15/16	12	.85	.55
E94	1.5	1 11/32 dia. x 1 13/64	12	1.00	.65
E95‡	1.5	1 11/32 dia. x 2 13/32	12	1.00	.65
303▲•	1.5	.455 dia. x .220	6	1.69	1.11
523	4.5	.662 dia. x 1.965	1	2.29	1.53

"Eveready" No.	Voltage	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit Pkg.
531§	4.5	.662 dia. x 2.290	6	$ 2.29	$ 1.53
532§	3.0	.664 dia. x 1.670	1	2.00	1.34
538§	4.5‡	1.60 x .670 x .450	1	2.69	1.79
544♦	6.0	.514 dia. x .990	1	2.85	1.90
560■	7.5	2 21/32 x 1 17/32 x 7 5/32	1	9.60	6.40
561■	15	8 5/16 x 2 13/16 x 5 7/8	1	20.40	13.60
563■	4.5	1 23/64 dia. x 7 5/32	3	5.40	3.60
564■	13.5	8 5/16 x 2 13/16 x 5 7/8	1	19.90	13.26
565■	6.0	2 25/32 x 2 25/32 x 5 11/32	1	9.60	6.40

(Available at extra cost: *Suffix **N** types for instrument voltage ref. and hi-temp use; †1½" steel tab connectors for solder/weld; ‡Blister pack of 2; #Blister pack of 4; §Blister pack of 1.) •Silver type. ■For portable TV sets. ▲Blister pack. ♦Silver oxide. ‡Size K.

BURGESS® BATTERIES

2

2U6

930

AL-1

Hg-9

BATTERIES FOR TRANSISTOR CIRCUITS

Burgess No.	Volts	Size in Inches, L. x W. x H.	Unit Pkg.	List Price	Net Each*
130•	1½	63/64 (dia.) x 1 15/16	12	$0.40	$0.25
130**	1½	63/64 (dia.) x 1 15/16	24#	.80▲	.51▲
230•	1½	1 21/64 (dia.) x 2 25/64	12	.40	.25
230**	1½	1 21/64 (dia.) x 2 25/64	24#	.80▲	.51▲
930•	1½	35/64 (dia.) x 1 31/32	24	.35	.22¾
930■	1½	35/64 (dia.) x 1 31/32	12#	1.40▲	.89▲
310NE•	1½	7/16 (dia.) x 1 11/64	6	.20	.13
2MN6§	9	1 x 39/64 x 1 7/8	12	1.09	.72
2N6	9	1 3/8 x 1 3/8 x 2 3/4	1	2.50	1.66
2U6•	9	1 x 39/64 x 1 7/8	12	.89	.61
2U6♦	9	1 x 39/64 x 1 7/8	12#	.89▲	.62▲
C6X	9	2 5/16 x 1 1/32 x 6 1/16	1	4.00	2.66
D6	9	2 5/16 x 2 x 3 5/32	1	2.80	1.86
P6•	9	1 (dia.) x 1 15/16	6	1.25	.84
Y6	9	3/5 x 3/5 x 1.9	1	1.20	.83
XX9	9, 13½	1 9/32 x 2 9/32 x 2 17/32	1	6.90	4.83
PM8	12	1 (dia.) x 2 7/16	1	2.00	1.33

POCKET TAPE RECORDER BATTERIES

2VT8	12	1 5/16 x 1 5/16 x 3 19/32	1	3.45	2.30

RADIO "A" BATTERIES

4D	1½	2 5/8 x 2 5/8 x 2 13/16	1	$ 2.99	$ 2.08
4F	1½	2 5/8 x 2 5/8 x 4 3/32	1	2.80	1.87
F3	4½	4 x 1 7/16 x 4 1/8	1	3.95	2.65
F4PI	6	2 21/32 x 2 21/32 x 4 1/8	1	2.50	1.72
B5	7½	3 29/32 x 7/8 x 2 27/32	1	5.00	3.43
C5	7½	2 7/32 x 1 15/16 x 3 1/32	1	3.39	2.27

RADIO "B" BATTERIES

2308SC	45	8 3/32 x 2 31/32 x 7 1/4	1	$27.00	$17.98
10308PI	45	8 1/32 x 4 1/32 x 7 3/16	1	28.00	18.65
10308SC	45	8 1/32 x 4 1/32 x 7 3/16	1	28.00	18.65
U10	15	1 x 39/64 x 1 7/16	1	1.50	1.03
U15	22½	1 x 39/64 x 1 31/32	1	2.00	1.33
U20	30	1 x 39/64 x 2 17/32	1	1.95	1.30
M30	45	3 9/16 x 1 3/4 x 5 1/2	1	6.00	4.00
U30	45	1 3/32 x 1 9/32 x 3 17/32	1	2.98	1.98
XX30	45	2 17/32 x 3 1/32 x 3 21/32	1	4.02	2.81
K45	67½	2 11/16 x 1 5/16 x 2 1/4	1	5.50	3.67
UX45	67½	1 7/32 x 3 1/32 x 3 31/32	1	5.70	3.85
XX45	67½	2 3/4 x 1 11/32 x 3 43/64	1	3.85	2.70
N60	90	1 7/8 x 1 11/32 x 7 1/8	1	10.67	7.15
P60	90	1 29/32 x 1 x 7 13/32	1	7.00	4.66
V60	90	3 23/32 x 1 9/32 x 3 11/16	1	5.50	3.76

RADIO "A AND B" BATTERY

6TA60	1½, 90	9 31/32 x 2 1/4 x 4 7/16	1	$16.95	$11.40

INDUSTRIAL, ELECTRONIC, TRANSISTOR "A" BATTERIES

2F	1½	2 13/32 x 1 3/8 x 4 1/4	1	$2.38	$ 1.63
2FH	1½	2 5/8 x 1 1/32 x 4 1/8	5	2.05	1.36
2F2H	3	2 5/8 x 2 5/8 x 4 1/16	5	6.00	4.00
F2BP	3	2 21/32 x 1 3/8 x 4 1/32	6	3.70	2.54
532	4½	2 15/32 x 1 3/16 x 2 23/32	1	2.70	1.88
F4BP	6	2 5/8 x 2 5/8 x 4	1	2.08	1.39
F4BP (Paper)	6	2 5/16 x 2 5/16 x 4 1/8	1	3.60	2.40

INDUSTRIAL, ELECTRONIC, TRANSISTOR "B" BATTERIES

Burgess No.	Volts	Size in Inches, L. x W. x H.	Unit Pkg.	List Price	Net Each*
K10	15	1¼ x 7/8 x 1 17/32	1	$ 3.40	$ 2.25
U10	15	1 x 39/64 x 1 7/16	1	1.50	1.03
Y10	15	19/32 x 19/32 x 1 23/64	1	1.70	1.13
4156	22½	3 17/32 x 2 1/8 x 2 29/32	1	3.50	2.40
5156PI	22½	4 7/64 x 2 3/8 x 2 55/64	1	11.00	7.33
5156SC	22½	4 1/8 x 2 1/2 x 2 3/4	1	11.00	7.33
K15	22½	1 1/4 x 7/8 x 2 9/32	1	3.90	2.60
U15	22½	1 x 39/64 x 1 31/32	1	2.00	1.33
XX15	22½	1 11/32 x 15/16 x 3 7/8	1	6.50	4.33
Y15	22½	19/32 x 19/32 x 1 31/32	1	2.00	1.33
K20	30	1¼ x 15/16 x 2 23/32	1	4.60	3.06
U20	30	1 x 39/64 x 2 17/32	1	1.95	1.33
Y20	30	1 3/16 x 19/32 x 1 13/32	1	9.90	6.59
Y20S	30	19/32 x 19/32 x 2 9/16	1	2.48	1.65
5308	45	4 1/16 x 2 9/16 x 5 1/8	1	7.50	5.00
B30	45	4 1/16 x 2 17/32 x 5 5/16	2	10.60	7.45
XX30PI	45	2 17/32 x 3 1/32 x 4 1/32	1	5.18	3.50
Z30NX	45	3 1/32 x 1 7/8 x 4 19/32	5	7.90	5.40
XX69	103½	1 11/32 x 1 11/32 x 11 23/32	1	14.50	9.66
U200	300	2 3/4 x 2 9/32 x 3 7/8	1	16.30	10.85

INDUSTRIAL AND ELECTRONIC "C" BATTERIES

2370	4½	3 15/16 x 1 3/8 x 2 7/8	1	$6.50	$4.33
5360	4½	2 13/32 x 2 7/32 x 2 21/32	1	2.85	1.88
5540	7½	4 x 7/8 x 2 3/4	1	4.25	2.92

FLASHLIGHT AND LANTERN BATTERIES

1†	1½	63/64 dia. x 1 15/16	24	$0.35	$0.22¾
100§	1½	63/64 dia. x 1 15/16	24	.80	.50
2†	1½	1 21/64 dia. x 2 3/8	48	.35	.22¾
210‡	1½	1 21/64 dia. x 2 3/8	50	Industrial resale only	
200§	1½	1 21/64 dia. x 2 3/8	48	.80	.50
7§	1½	1 3/32 dia. x 1 3/4	24	.30	.195
310■	1½	7/16 dia. x 1 11/64	12#	.80	.53
910§	1½	35/64 dia. x 1 31/32	24	.30	.195
4F2H	3	3 29/32 x 2 11/16 x 5 13/32	1	5.75	3.85
F4BP	6	2 5/8 x 2 5/8 x 4	1	2.08	1.39
F4M (Metal)	6	2 5/8 x 2 5/8 x 4 3/8	12	1.98	1.32
F4SC	6	2 5/8 x 2 5/8 x 4 1/2	1	2.76	1.90
TW1I	6	5 3/8 x 2 7/8 x 4 15/16	1	4.25	2.84
TW1-XI	6	5 3/8 x 2 7/8 x 4 15/16	1	4.90	3.26
TW2I	12	5 3/8 x 2 7/8 x 4 15/16	1	5.20	3.46
Z46HD‡‡	69	2 33/64 x 2 3/64 x 8 3/16	2	6.60	4.40

FLASHLIGHT CASES AND LANTERNS

Burgess No.	Description	Pkg.	List Price	Net Each*
261	Head-Light	1	$4.75	$3.17
461	Battery pouch for Head Light	1	2.00	1.35
563§§	Penlight, size AAA	24	1.59	1.06
663§§	Penlight, size AA	24	1.59	1.06
266	2-cell, prefocused, magnet light	1	2.19	1.46
167	Voyager flashlight, 2-cell pref.	6	1.89	1.26
257	Sat. Torch, 2-cell jr., prefocused	3	2.89	1.93
457	Satellite Torch, 4-cell prefocused	1	4.49	2.99
459	Satellite Torch, 3-cell prefocused	1	3.65	2.43
163	Tuffy plastic, 2-cell prefocused	1	1.29	.86
263	Magnet ind. plastic, 2-cell pref.	6	2.90	1.93
363	Ind. flashlight, 2-cell pref., plastic	6	2.29	1.51
463	Same as above, 3-cell, fiber barrel	6	2.89	1.90
453	2-cell industrial safety light	1	6.50	4.35

SAFARI-LITE, RADAR-LINE LANTERNS AND ACCESSORIES

SL3*	Safari lantern, spot beam, flasher	1	$16.95	$11.29
165/3††	Safari-Lite fluorescent lantern	1	33.95	21.10
TW3*	Radar-Lite spot beam, flasher	1	16.95	11.29
TW4*	Radar-Lite spot beam, no flasher	1	14.95	9.96
TW6E*	Radar-Lite, flood beam‡	1	25.98	17.30
TW7*	Radar-Lamp, chrome finish	1	14.95	9.96
TW10*	Panther-Lite spot beam, flasher	1	21.95	14.62
TW11*	Radar-Lite, 6 V bulb-reflector	1	13.95	9.30
TW12*	Radar-Lite 12 V lantern	1	13.95	9.30
TW34	Radar-Flash	1	4.50	2.90
RL22	Radar Line Storage Bracket	1	3.00	2.00

*In unit package quantities; add 10% for less than standard package quantities. †Dispenser, also available in 2-pack and 4-pack. ‡50 bulk-pack. §Dispenser, also available in Blister-pack. #Cards. •Dispenser. *Per card. ■Blister-pack of 4. ♦Blister-pack. IFor use with Radar-Lites. ‡Power failure operated. *With batteries. **Blister-pack of 2. ††Specify 165/3 **GY** (gray case) or 165/3 **GN** (green case); with batteries. ‡‡For use with Safari-Lite. §§Available in Blister Pack.

BURGESS® BATTERIES

IGNITION AND TELEPHONE BATTERIES

Burgess No.	Volts	Size in Inches, L. x W. x H.	Unit Pkg.	List Price	Net Each*
410 (4FM)‡	1½	2⅝ x 2⅝ x 4	12	$2.25	$1.50
6 Ign.**	1½	2½ dia. x 6⅝	12	2.38	1.59
6 Ind.**	1½	2½ dia. x 6⅝	12	2.38	1.59
6 Tel.**	1½	2½ dia. x 6⅝	12	2.38	1.59
4F2H	3	$3^{29}/_{32}$ x $2^{11}/_{16}$ x $5^{13}/_{32}$	1	5.75	3.95
4F4H	6	$8^{5}/_{16}$ x $2^{13}/_{16}$ x $5^{13}/_{16}$	1	9.20	6.13
S461	6	10½ x 2¾ x $7^{13}/_{32}$	4	8.38	5.59
4F5H	7½	$7^{3}/_{16}$ x $3^{13}/_{32}$ x $5^{13}/_{16}$	1	9.70	6.46
4F6H	9	8½ x $3^{13}/_{32}$ x $5^{13}/_{16}$	1	10.90	7.26
2F8H	12	$8^{5}/_{16}$ x $2^{13}/_{16}$ x $5^{13}/_{16}$	1	7.67	5.14
2G8H	12	10½ x 2¾ x $7^{13}/_{32}$	1	11.30	7.53

PHOTOFLASH BATTERIES

U10	15	1 x $3^{9}/_{64}$ x $1^{7}/_{16}$	1	$ 1.50	$ 1.03
Y10	15	$1^{9}/_{32}$ x $1^{9}/_{32}$ x $1^{23}/_{64}$	1	1.70	1.13
U15	22½	$3^{1}/_{32}$ x $^{9}/_{16}$ x $1^{31}/_{32}$	1	2.00	1.33
Y15	22½	$1^{9}/_{32}$ x $1^{9}/_{32}$ x $1^{31}/_{32}$	1	2.00	1.33
U20	30	1 x $3^{9}/_{64}$ x $2^{17}/_{32}$	1	1.95	1.30
M30	45	$3^{9}/_{16}$ x 1¾ x 5½	1	6.00	4.00
K45	67½	$2^{11}/_{16}$ x $1^{5}/_{16}$ x 2¼	1	5.50	3.67
XX45	67½	2¾ x $1^{11}/_{32}$ x $3^{43}/_{64}$	1	3.85	2.70
V60	90	$3^{23}/_{32}$ x $1^{9}/_{32}$ x $3^{11}/_{16}$	1	5.50	3.76
XX150	225	4¼ x 2⅝ x 4¼	1	13.00	8.66
U160	240	$2^{9}/_{16}$ x $1^{5}/_{16}$ x $4^{13}/_{32}$	1	12.50	8.32
U320	510	$2^{15}/_{16}$ x $1^{17}/_{32}$ x $5^{7}/_{16}$	1	22.00	14.65

MERCURY BATTERIES

Flat terminals except H146X, H177, H286 and H289 which are snap type.

Burgess No.	Volts	Size in Inches, Dia. x H.	Unit Pkg.	List Price	Net Each*
Hg-1R	1.35	⅝ x $^{21}/_{32}$	4	$1.52	$0.99
Hg-3R	1.35	1 x $^{21}/_{32}$	4	2.36	1.53
Hg-4R	1.35	$1^{13}/_{64}$ x $^{21}/_{32}$	4	3.02	1.96
Hg-12R	1.35	⅝ x 2	2	2.36	1.53
Hg-42R	1.35	$1^{13}/_{64}$ x 2⅜	1	6.66	4.33
Hg-400R	1.35	$^{29}/_{64}$ x $^{9}/_{64}$	6	1.20	.80
Hg-450R	1.35	$^{29}/_{64}$ x $^{9}/_{16}$	4	1.51	.98
Hg-502R	1.35	$1^{7}/_{32}$ x $1^{31}/_{32}$	2	2.12	1.38
Hg-601R	1.35	⅝ x $1^{9}/_{64}$	2	2.12	1.38
Hg-640R	1.35	⅝ x $^{7}/_{16}$	4	1.32	.86
HPX-13	1.35	⅝ x ¼	4§§	1.20▪▪	.80▪▪
HPX675	1.35	. . . . .	6	1.20	.80
Hg-1	1.4	⅝ x $^{21}/_{32}$	4	1.20	.80
Hg-9	1.4	$1^{7}/_{32}$ x $1^{31}/_{32}$	1♦♦	5.00▪▪	3.30▪▪
Hg-12	1.4	⅝ x 2	2	2.10	1.39
Hg-42	1.4	$1^{13}/_{64}$ x 2⅜	1	6.05	4.00
Hg-312	1.4	$^{5}/_{16}$ x $^{9}/_{64}$	6	.48	.32
Hg-400	1.4	$^{29}/_{64}$ x $^{9}/_{64}$	6	.90	.60
Hg-401	1.4	$^{29}/_{64}$ x 1⅛	3	3.60	2.38
Hg-575	1.4	$^{29}/_{64}$ x ⅛	6	.48	.32
Hg-625	1.4	⅝ x ¼	4	1.15	.75
Hg-640	1.4	⅝ x $^{7}/_{16}$	4	1.10	.66
Hg-675	1.4	$^{29}/_{64}$ x $^{13}/_{64}$	6	.60	.40
H132R	2.7	$^{43}/_{64}$ x $1^{5}/_{16}$	2	2.64	1.72
HPX-14	2.7	$^{21}/_{32}$ x ⅝	4	2.40	1.60
H132	2.8	$^{21}/_{32}$ x $1^{5}/_{16}$	2	2.35	1.55
H133R	4.05	$^{21}/_{32}$ x 2	2	3.36	2.18
HPX25	4.05	. . . . .	2	3.00	2.00
H133	4.2	$^{21}/_{32}$ x 2	6	3.00	2.00
H233	4.2	$1^{1}/_{64}$ x $1^{31}/_{32}$	1	5.44	3.54
H134R	5.4	$^{43}/_{64}$ x 2⅝	2	4.08	2.65
H164	5.6	$^{21}/_{32}$ x 1¾	6	3.00	2.00
HPX23	5.6	. . . . .	6	1.25	.83
H115R	6.75	$^{43}/_{64}$ x $1^{21}/_{64}$	2	4.48	2.69
H135R	6.75	$^{43}/_{64}$ x $3^{9}/_{32}$	2	4.82	3.13
H165R	6.75	$^{21}/_{32}$ x $2^{13}/_{64}$	2	4.46	2.90
H165	7.0	$^{21}/_{32}$ x $2^{13}/_{64}$	2	3.90	2.57
H175	7.0	. . . . .	1	2.70	1.78
H136R	8.1	$^{43}/_{64}$ x $3^{15}/_{16}$	2	5.42	3.52
H126	8.4	$^{47}/_{64}$ x 2	6	3.00	2.00
H146X	8.4	1 $^{1}/_{32}$ x $^{21}/_{32}$ x 1¾	6	2.20	1.45
H137R	9.45	$^{43}/_{64}$ x $4^{19}/_{32}$	1	6.04	3.92
H289	12.6	1 x $2^{25}/_{64}$	6	6.00	4.00

INDUSTRIAL MERCURY BATTERIES

Burgess No.	Volts	Cap., mAH	T ɪ	Size in Inches, L. x W. x H.	Wt., Lbs.	Net Each*
302651	1.35	14,000	▪	1¼ dia. x 2⅜	.388	$ 5.64
302702	2.7	2,200	#	$1^{1}/_{16}$ dia. x $1^{19}/_{32}$	.125	4.84
303236	4.2	1,000	†	⅝ dia. x $1^{13}/_{16}$	.080	1.86
303496	4.2	. . . . .		. . . . .	.15	1.65
302351	5.4	2,200	†	1½ dia. x 2⅜	.281	7.88
302904	5.4	3,400	#	1⅜ dia. x $2^{23}/_{32}$	.418	8.86
302435	6.75	250	†	$2^{1}/_{32}$ dia. x $1^{15}/_{32}$	.045	4.02
302497	6.75	2,200	▲	$1^{1}/_{32}$ dia. x $3^{11}/_{16}$	.375	11.86
302642	6.75	2,400	†	1¼ dia. x $2^{9}/_{16}$	.394	7.84
302905	6.75	3,400	#	1⅜ dia. x $3^{17}/_{32}$	.522	10.67
303145	8.4	2,400	♦	$2^{3}/_{16}$ x $2^{7}/_{32}$ x $4^{9}/_{16}$	.551	9.22
302250	9.45	250	§	$2^{1}/_{32}$ dia. x $1^{7}/_{8}$	.062	3.82
302907	9.45	3,400	#	1⅜ dia. x $2^{27}/_{32}$	.728	12.90
302478	9.8	2,400	†	1¼ dia. x $3^{9}/_{16}$	.556	9.22
303219	9.8	160	•	½ dia. x $1^{9}/_{16}$	.030	2.55
302358	10.8	250	#	$^{11}/_{16}$ dia. x 2⅛	.055	5.08
302908	10.8	3,400	#	1⅜ dia. x 5½	.831	14.44
303394	11.2	3,600	♦	2½ x 1¾ x 2¾	.750	13.78
302362	16.2	250	#	$^{11}/_{16}$ dia. x $3^{3}/_{32}$	.076	6.44
303314	16.8	2,400	†	$2^{7}/_{8}$ x $1^{13}/_{16}$ x $1^{5}/_{16}$	.800	13.55
302580	27	3,400	‡	$2^{21}/_{32}$ x $2^{21}/_{32}$ x $3^{27}/_{32}$	2.010	40.64
302579	29.7	250	#	$1^{11}/_{32}$ x $1^{1}/_{16}$ x $3^{1}/_{8}$	.312	15.84
302465	47.25	1,000	#	$2^{1}/_{16}$ dia. x $3^{3}/_{8}$	1.062	28.88
302462	97.2	1,000	#	2¾ x $1^{15}/_{32}$ x $6^{11}/_{32}$	2.000	47.42

ALKALINE BATTERIES

Burgess No.	Volts	Size in Inches, Dia. x H.	Unit Pkg.	List Price	Net Each*
AL-1†‡	1½	$^{63}/_{64}$ x $1^{15}/_{16}$	12	$0.80	$0.52
AL-2†‡	1½	$1^{21}/_{64}$ x $2^{13}/_{32}$	12	1.00	.65
AL-7†‡	1½	$^{13}/_{32}$ x 1¾	12	.70	.455
AL-9†‡	1½	$^{17}/_{32}$ x $1^{31}/_{32}$	6♦♦	2.80ɪɪ	1.82ɪɪ
AL-N†‡	1½	$^{29}/_{64}$ x 1⅛	2	1.40	.91
APX825‡‡	1½	. . . . .	12	1.80ɪɪ	1.17ɪɪ
APX-24	3	$^{21}/_{32}$ x 2	6	2.00	1.34
APX30	3	. . . . .	6	1.85	1.23
APX-19	4½	$^{21}/_{32}$ x $2^{13}/_{32}$	6	2.29	1.53

NICKEL-CADMIUM CELLS AND BATTERIES

Types with suffix **L** have solder lugs for terminals.

Burgess No.	Volts	Size in Inches, L. x W. x H.	Unit Pkg.	List Price	Net Each*
CD1	1.25	.460 dia. x .225	1	$ 2.60	$ 1.73
CD2	1.25	.610 dia. x .236	1	1.96	1.31
CD3	1.25	.984 dia. x .275	1	2.25	1.50
CD3L	1.25	.984 dia. x .300	1	2.56	1.76
CD4	1.25	.984 dia. x .350	1	2.30	1.53
CD4L	1.25	.984 dia. x .375	1	2.58	1.72
CD5	1.25	1.700 dia. x .300	1	3.39	2.27
CD5L	1.25	1.700 dia. x .325	1	3.74	2.50
CD6 (AA)	1.25	.560 dia. x 1.950	1	3.11	2.11
CD6L (AA)	1.25	.560 dia. x 2.275	1	3.58	2.31
CD8	1.25	.984 dia. x .232	1	2.18	1.45
CD8L	1.25	.984 dia. x .257	1	2.48	1.65
CD10 (D)	1.25	1.300 dia. x 2.425	1	11.46	7.64
CD10L (D)	1.25	1.300 dia. x 2.775	1	11.56	7.74
CD12##	1.25	.876 dia. x 1.672	1	4.55	3.03
CD12L##	1.25	.876 dia. x 1.672	1	4.85	3.23
CD13••	1.25	1.273 dia. x 1.440	1	12.72	8.48
CD13L••	1.25	1.273 dia. x 1.440	1	13.02	8.68
CD14 (C)	1.25	1.010 dia. x 1.945	1	6.70	4.68
CD16▲▲	1.25	1.300 dia. x 2.425	1§§	9.58	6.70
CD17	1.25	1.27 dia. x 3.49	1	16.47	11.52
CD17L	1.25	. . . . .	1	16.47	11.52
CD108	1.25	3.56 x 1.05 x 4.90	1	47.30	31.50
CD110	1.25	3.56 x 1.66 x 4.90	1	65.05	43.35
CD111	1.25	3.56 x 1.97 x 4.90	1	68.80	45.90
CD52	4.8	4¼ x $2^{11}/_{16}$ sq.	1	46.53	32.57
CD54	4.8	4¼ x $2^{11}/_{16}$ sq.	1	64.90	45.43
CD21	6	1.065 dia. x 1.525	1	14.10	9.86
CD22	6	1.065 dia. x 1.975	1	15.25	10.65
CD23	6	1.800 dia. x 1.725	1	23.10	16.08
CD33	6	$5^{3}/_{8}$ x $2^{7}/_{8}$ x $4^{15}/_{16}$	1	47.20	33.02
CD200	6	5.0 x 1.0 x 1.813	1	31.35	21.95
CD207	6	7.031 x 1.406 x 2.594	1	61.20	42.80
CD24	9.6	1.065 dia. x 2.650	1	20.50	14.35
CD25	9.6	1.065 dia. x 3.200	1	20.65	14.45
CD25L	9.6	1.065 dia. x 3.200	1	20.80	14.55
CD26	9.6	1.800 dia. x 2.575	1	34.50	24.10
CD27	12	1.065 dia. x 2.925	1	24.50	17.15
CD28	12	1.065 dia. x 3.600	1	26.25	18.35
CD29	12	1.800 dia. x 3.100	1	42.65	29.85
CD201	12	5.0 x 2.0 x 1.813	1	54.55	36.38
CD202	12	10.0 x 1.0 x 1.813	1	52.60	36.79
CD208	12	7.031 x 2.813 x 2.594	1	111.70	78.12
CD209	12	14.063 x 1.406 x 2.594	1	114.75	80.26
CD64	14.4	$2^{7}/_{8}$ x $2^{51}/_{64}$ x $1^{21}/_{64}$	1	86.50	57.60
CD204	24	5.0 x 4.0 x 1.813	1	93.30	65.31
CD205	24	10.0 x 2.0 x 1.813	1	92.80	64.92
CD211	24	7.031 x 5.625 x 2.594	1	215.00	150.47
CD212	24	14.063 x 2.813 x 2.594	1	215.00	150.47

*In unit package quantities; add 10% for less than standard pkg. quantities. ɪTerminals: †Flat; ‡Socket; §Tabs; #Leads; •Button; ▲Posts; ▪Special leads; ♦Snap. ‡Hobby type. **Specify screw or spring clip terminals. ††Display. ‡‡Available in blister-pack; price on request. §§Cards. ##Short C. ••Half D. ▲▲Blister pack of two. ▪▪Per Card. ♦♦4-pack. ɪɪPer pack. ‡‡2-pack.

NEDA Battery Cross Reference

	Voltage	NEDA	Military	Bright Star	Burgess	Eveready	Mallory	Marathon	RCA	Ray-O-Vac	Zenith	Other Brands
"A" Batteries	6	1	BA-203/U		2F4	718		3001		A1		
	6	2			Z4	724		3002	VS068	A2		
	4½	3		360	F3	736		3003	VS067	A3	Z736	7D7003
	1½	4	BA-65	462	4F	742	M4*	3004	VS004	A4	Z94	
	1½	5		660*	6F	743		3005		A5	Z96	
	6	6		646	F4PI	744		3006	VS345	A6		
	4½	7	BA-226/U	361*	G3	746		3007	VS067	A7	Z83A	17-266
	7½	8			B5	713		3008	VS129	8		
	7½	9		591	C5	717	M9*	3009	VS065	9	Z750	7D7009, 17-275
	7½	10				W-360*		3010*		A10		
	1½	11			2F	W-353		3011	VS141	11		
	1½	12			4FL*			3012*		12		
	1½	13		0197	230	1050	M13R	123	VS336	13	Z4NL	6445
	1½	13A		7520	AL2	E95	Mn1300	13A	VS1336	813		13267 (95MW)
	1½	13C		10MC	210	1150		122		3D		4680
	1½	13D				D99			VS343	5D*, 6D		EX5535-5, 17-436, 4660
	1½	13E						220				7D7013, 17-428
	1½	13F		10M	2	950	M13F	121	VS036	2D	Z2NL	EX5530-0, UM-1, 7D8113
	1½	13M			HG42	E42	RM42					
	1½	13P		10P	220	850	M13P	124	VS736	210		
	1½	14		0198	130	1035	M14R	113	VS335	14	Z7	EX5750-3, 17-322, 6446
	1½	14A		7522	AL1	E93	Mn1400	14A	VS1335	814		13268 (93MW)
	1½	14E						110				7D7014
	1½	14F		11M	1	935	M14F	111	VS035A	1C		EX5520-2, UM-2, 7D8114
	1½	14P		11P	120	835	M14P	114	VS735	110		
	1½	15		0199	930	1015	M15R	173	VS334	15	Z8	EX5700-4, 17-321, 6447
	1½	15A		7524	AL9	E91	Mn1500	15A	VS1334	815		7D7815, 13269 (91MW)
	1½	15E			Z	515*				7R		7D7015, 17-405
	1½	15F		59	910	915	M15F	170	VS034A	7AA		EX5510-4, UM-3, 4666
	1½	15M			HG9	E9	ZM9		VS9	15M	Z9	6448
	1½	15P		59P	920	815	M15P	174	VS734	710		
	1½	17			8F	741		3017		17		
	1½	18			2D	720		3018	VS069	18		
	4½	19		305	D3	726		3019	VS072	19	Z450	
	1½	20		61R*	21R	964	M20*	3020	VS236	20	Z5	7D8020, 17-272
	1½	23	BA-231/U		8R	960P		3023	VS070	23	Z1	
	1½	24A		7526	AL7	E92	Mn2400	24A	VS1074	824		
	1½	24F		58	7	912	M24F	180	VS074	400	Z912	7D7024, 4656
	1½	24P		58P	720	812		184		410		
	7½	26			D5	707		3026	VS315	26	Z707	
"B" Batteries	67½	200		45N	XX45	467	M200	4200	VS016	200	Z67	7D7200*, 17-304
	67½	200C			V45	468		4200A	VS125			
	45	201	BA-56		XX30	455		4201	VS055	201	Z455	7D7201*
	45	202	BA-59	30-33	M30	482		4202	VS013	202	Z783	
	67½	203			K45	457		4203	VS082	203	Z457	
	90	204		60N	V60	490		4204	VS090	204	Z490	
	22½, 45	205	BA-36	30-59	Z30	738		4205	VS015	205		
	45	206			A30	W-359		4206	VS014	206		
	45	207	BA-223/U	30-03	B30	484		4207	VS344	207	Z530	
	15	208			U10	411	M208	4208	VS083	208	Z11M*	
	30	210			U20	413	M210	4210	VS085	A210	Z13M*	
	67½	211		675	P45	477	M211P*	4211	VS218	211P	Z477	7D7211*, 17-310*, 6482
	75	212			XX50	437		4212	VS217	212	Z437	
	45	213			U30	415		4213	VS086	213	Z415	
	90	214			P60	479		4214	VS219	214	Z90	17-314
	22½	215	BA-261/U	12P	U15	412	M215	4215	VS084	215	Z12M*	
	90	216			N60X	495		4216	VS316		Z495	
	67½	217			UX45	416		4217	VS318	217		17-305*
	15	220		15P	Y10	504	M504	4220	VS704	220	Z5M*	
	22½	221		22P	Y15	505	M505	4221	VS705	221	Z6M*	
	30	222			Y20S	507	M507	4222				
	30	223			Y20	506	M506	4223				
	15	224			K10	417		4224				
	22½	225			K15	420		4225				
	30	226			K20	430		4226				
	103½	227	BA-38		XX69	W-361		4227		69N		
"A" & "B" Battery Packs	9, 90	400			G6B60	752		5400	VS047	A400	Z985	
	7½, 9, 90	401		66–50*	F6A60	753		5401	VS019	401	Z979	17-323*, 6407
	6, 7½, 75	403		66–52*	T5Z50	755		5403	VS050	403		
	7½, 9, 90	405		66–53*	T6Z60	756		5405	VS057W	405		
	9, 90	406		66–54*	F6A60P	757		5406	VS058	406	Z909	
	1½, 63	407						5407*		407		
	1½, 90	410	BA-48		6TA60	W-369*		5410		A410		
	1½, 90	413		61–05*	17GD60	759		5413	VS022	413	Z802	7D7413, 17-325
	7½, 9, 90	415				776		5415	VS119*	415	Z990	
	1½, 9, 90	416			G6B60, 8R	960P, 752		5400, 3023		23, A400	Z985X	
	1½, 90	425			4TZ60	729		5425	VS064	425		
	1½, 90	426						5426		426	Z28	
	9, 90	428			T6Z60P	727*		5428*	VS059*	428	Z962	
	7½, 75	431			T5Z50P	785*		5431	VS060*	431	Z775	
Industrial and Special Purpose Batteries	1½	700	BA-15A		2FBP	711		6700	VS101	700		
	3	701	BA-205		F2BP	W-352		6701	VS100	701		
	16½ to 22½	702	BA-8		2156	766T		6702		702		
	3	703			2F2H	W-356		6703	VS136	703		
	3	704	BA-208		422	750		6704	VS134	704		
	4½	705	BA-28		432	751		6705	VS142	705		
	4½	706	BA-9	03–17	532	703		6706	VS346	706		
	3 to 22½	708	BA-230		5156SC	778		6708	VS131	708		
	22½, 45	709	BA-36		5308	762S		6709	VS112	709		
	22½	710	BA-2		4156	763		6710	VS102	A710		
	22½, 45	711	BA-53		Z30NX	W-350		6711	VS114	711		
	1½ to 4½	712	BA-27		2370ST	761T		6712	VS130	712		
	1½ to 7½	713		51–03	5540	773		6713	VS029	713		
	4½	714		03–17S	5360	781		6714	VS028	714		
	22½, 45	715			21308SC	W-364F		6715	VS157W	715		
	22½, 45	716			10308SC	W-363F		6716	VS127W	A716		
	22½, 45	717			2308PI	W-365P		6717		717		
	3, 4½	718		71–17	2370PI	771*		6718		718		
	1½	719			20F	740*		6719		719		
	3 to 22½	721	BA-211/U	15–03	5156PI			6721		721		
	300	722	BA-291/U		U200	493		6722	VS093	722		
	22½, 45	723			2308SC	W-365F		6723		723		
	6	725						6725		725		7D7725
	22½, 45	726			10308PI	W-363P		6726		726		
	22½, 45	727			21308PI	W-364P*		6727		727		

NEDA Battery Cross Reference

Industrial and Lighting Batteries

Voltage	NEDA	Military	Bright Star	Burgess	Ever-eady	Mallory	Mara-thon	RCA	Ray-O-Vac	Zenith	Other Brands
1½	900	BA-35	464	4FM	735	M900	491	VS106	900		2259
1½	900E			4FH							
3	901	BA-225/U	863	4F2H	W-357		901	VS138	901		
6	902	BA-222/U		4F4H	706		902	VS103	902		
7½	903		155	4F5H	715	M903	903	VS139	903		
9	904	BA-207/U	164	4F6H	716	M904	904	VS140	904		
1½	905		6 Ign.	6 Ign.	6 Ign. S	M905	66	VS006S	6 Ign. S		EX5580-9, 7D7905, 17-411, 4669S, 13250 (6MW)
1½	905FC		6 Ign.	6 Ign. SC	6 Ign. F	M905	66FC	VS006S	6 Ign. C		4669C
1½	906		6 Tel.	6 Tel.	6 Gray L	M906*	6T	VS006C	6 Tel. C		
6	907	BA-249/U	146	S461	1461	M907	640	VS039	641		EX5590-7, 7D8907, 17-414, 4668, 13255 (7MW)
6	907C						640EF*				EX5595-2
6	908	BA-200/U	460	F4M	509	M908	49NL	VS040C	941		EX5550-5, 7D8908, 17-442, 4667, 13257 (5MW)
6	908C			F4H Ind.	409	M916X	916		WM20		4702
6	908J						490RR				
6	908D						924				
9	909			D6BP					909		
1½	910			NE			133	VS073			6449
1½	910A		7528	AL-N	E90	Mn9100		VS1073	810		
1½	910F		20	N (Bare)	904	M910F	131		716		
1½	910M			HG401	E401	RM401		VS401	T401M		6443
1½	911	BA-23	6 Ind.	6 Ind.	6RR Ind.	M911*	66R		6RR Ind.		
7½	912				1562						
9	913	BA-206/U			1662				661BP		
6	915		460S	F4BP	510S	M915	496S	VS040S	942		7D8915, 4677
6	915D						925				
6	917		460C	F4SC	510F		496C		943		
6	918		158	TW1	731	M918	896	VS317	918		EX5560-3, 7D8918, 17-443, 4707, 13274 (8MW)
6	918D			TW1X							
6	918E										4705
6	920		646	F4BW	2744N		496F		920		
6	920D						920				
6	921			2F4BW			897		921		
6	921J			2F4S					27		
12	922		187	2G8H	1463		642	VS340	922		5704
12	923				2780N						
12	926			TW2	732		926	VS342	926		
1½	927				E94						
6	930				520						
12	940						940				
12	944						944				
12	945						945				

Transistor Batteries
See Individual Packages for Voltage Data

NEDA	Military	Bright Star	Burgess	Ever-eady	Mallory	Mara-thon	RCA	Ray-O-Vac	Zenith	Other Brands
1100			Hg-1	E1	RM1		VS1	1100M		
1101			Hg-12	E12	RM12		VS12			
1104			Hg-630	E630	RM630		VS630			
1105			Hg-640	E640	RM640		VS640	T640M		7D9016
1106			Hg-400	E400	RM400		VS400			
1107A				EPX77	MS76					
1108A				E89						
1200			H132	E132	TR132		VS132	T132M		
1201			PM2							
1300			H233	E233	TR233		VS233			
1303				2731N			VS337			
1305			H163	E163	TR163		VS163			6415
1306			1306*	333			VS332			
1306A			AL133	523	Mn1306		VS1149	828		7D7806
1306M			H133	E133	TR133		VS133	T133M		
1307			APX19	531	PX19			827		
1308			APX24	532	PX24			829		
1309M			303236		303236					
1310A				529						
1400			4D4	274*		1400				
1403				2713N			VS338			
1404			H164	E164	TR164		VS164			
1405			PM4							
1406A				544						
1500			H165	E165	TR165		VS165			
1501				E175	TR175					
1600		0918	P6	226	M1600	1600A	VS300A	1600	Z226	006P, 7D7600, 6418
1600D			PM6							
1600M			H286	E286	TR286			1600M		6421
1601			D6PI	2506		1601	VS301	1601		6420
1602			2N6	246	M1602	1602	VS305	1602		7D7602, 2603
1603			D6	276	M1603	1603	VS306	1603	Z276	6419
1604		0920	2U6	216	M1604	1604	VS323	1604	Z216	EX5800-3, 009P, 17-346, 6417, 13261 (16MW), 7D7604
1604A					Mn1604		VS1323			7D7804
1604D			2MN6	222						
1604M			H146X	E146X	TR146X		VS146X	1604M	Z146	6416
1605			M6	266	M1605	1605	VS322	1605		EX5810-1
1606			Y6					1606		
1606A				E177						
1606M			H177		TR177		VS177			
1608			D6S	2761N			VS331	1608		
1609				2762N						
1610			2Z3	243		1610	VS324			
1611			L6	206	M1611	1611	VS327			17-347
1611A					Mn1611					7D7810
1611M			H126	E126	TR126		VS126	1611M		6422
1612			C6X	2356N		1952	VS330			
1613				2709N			VS339			
1614			303145	E303145	303145					
1616			N6							
1700			2VT8							
1800			U8							
1801M					TR431					
1810			PM8	228			VS329			
1810M			H289	E289	TR289			1810M		
1900			XX9	239		1900	VS304	1900		17-277
1901			H169	E169	TR169					
2100M			303462		303462					
2200A			AL912							
2200M			303314	E303314	303314					

*Discontinued numbers shown for reference purposes only.

KEYSTONE

ALUMINUM BATTERY HOLDERS, CLIPS AND HARDWARE

69, 70, 71, 79

90, 91

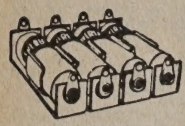
80, 93, 94, 95

217, 218, 219

78

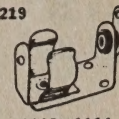
97, 98

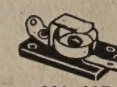
106, 109, 110, 119, 121, 122, 124, 132, 134, 137, 139, 154, 160, 164, 168, 173, 175, 179, 189, 225

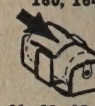

170, 182, 182A

163, 166, 177, 183

101, 103, 104, 111, 118, 126


1113, 1114


112, 117


61, 62, 63, 66

59

Keystone battery holders feature engineered snap clips, moisture-proof fiber washers, spring-temper aluminum alloy, nickel-plated brass eyelets. Coated terminals for easy soldering. Mounting holes on all holders. PC and quick-disconnect lugs available on special order.

STANDARD BATTERY, CELL HOLDERS

All batteries as grouped are similar in size and fit all holders listed alongside.

MINIATURE CELL HOLDERS

Keystone No.	Holds Cells	NEDA	Used with Mfr's Types: Eveready	Burgess	RCA	Net Each, Lots of 1-19	20-99
137	1					$0.26	$0.23
138	2					.44	.39
169	3	24	912	7	VS074	.64	.59
170	4					.74	.66

PENCELL HOLDERS

139	1		E9, E12	Z, CD6		$0.26	$0.23
140	2		E91	9R		.42	.37
171	3	15	E133	HG9	VS034A	.58	.53
182	4	15A	333	HG12R	VS144	.74	.66
189	2	1103	E502	H133	VS149	.53	.42
191	3	1107	515	HG502	VS313A	.57	.50
192	4		915, 1015	920	VS334	.74	.62
193	6		N46	930		1.07	.94

"C" CELL HOLDERS

173	1					$0.35	$0.31
174	2		226	1		.42	.37
187	3	14	E233	P6	VS035A	.68	.65
185	2	1300	635	120	VS300	.53	.42
195	3	1600	935	130	VS335	.57	.50
196	4		1035	H233	VS400	.74	.62
197	6		E93	302599		1.07	.94

"D" CELL HOLDERS

175	1					$0.35	$0.31
176	2		E42			.42	.37
190	3		E95	2		.76	.71
186	2		D99	2R	VS036A	.54	.43
199	3	13	A100	CD7	VS036	.58	.53
200	4		N56	210	VS336	.76	.64
201	6		950	230		1.10	.99
205	6		1050			1.00	.89

1½-VOLT CELL HOLDERS

154	1					$0.24	$0.23
155	2	910	E340	N	VS073	.41	.37
156	3		904			.57	.50
160	1	20	964	21R	VS236	.57	.50
179	1	927	E94			.35	.31

4½-VOLT CELL HOLDER

139B	1	1306	333		VS1149	$0.37	$0.35

9-VOLT CELL HOLDERS

139A	1	1611	206		VS327	$0.31	$0.28
203P	1	1604	216	2U6	VS323	.51	.42
173P	1	1600	226	P6M	VS300A	.37	.34

15-VOLT BATTERY HOLDERS

163	1	224	417	K10		$0.35	$0.31
161	1					.35	.31
166	1	208	411	U10	VS083	.35	.31
167	2					.44	.39
225	1	220	504	Y10		.23	.22
226	2					.39	.35

22½-VOLT BATTERY HOLDERS

164	1	225		K15		$0.35	$0.31
168	1		420			.35	.31
177	1	215	412	U15	VS084	.35	.31
178	2					.44	.39
139A	1					.31	.28
140A	2	221	505	Y15		.47	.43
171A	3					.60	.55
182A	4					.74	.66

30-VOLT BATTERY HOLDERS

165	1	226	430	K20		$0.35	$0.31
183	1	210	413	U20	VS085	.35	.31
184	2					.44	.39
157	1	223	506	Y20		.35	.31
134	1	222	507	Y20S		.44	.39

BATTERY AND COMPONENT HOLDERS

Two #40 mtg. holes spaced .437" unless otherwise noted.

Keystone No.	Holds Bat. Size, Inches	For Cells†	Dimensions, Inches: Lgth. ±.005"	Width ±.015"	Height ±.015"	Net Each, Lots of 1-19	20-99
69*‡	.562 dia. (2)	(2)AA	.625	1.125	.562	$0.08	$0.07
70‡	.656 dia. (2)	(2)RM12	.625	1.343	.687	.09	.08
71*	.593 x 1.031	2U6	.625	1.031	.687	.08	.07
78*§	1.187 to 1.350	D	.500	.562	1.218	.08	.07
79*‡	.650 x 1.280	T 146 X	.625	1.050	.765	.08	.07
80*	.650 x 1.280	T 146 X	.625	.675	1.187	.08	.07
90	.375 to .468	AAA	.625	.312	.453	.06	.04
91	.531 to .656	AA	.625	.406	.593	.07	.05
93	.875 to 1.125	C	.625	.937	.921	.07	.06
94	1.187 to 1.375	D	.625	1.250	1.218	.08	.07
95	.625 x 1.00	U-15	.625	.656	1.125	.07	.06
97	1.031 dia. (2)	(2) C	.625	2.062	1.125	.09	.08
98‡	1.312 dia. (2)	(2) D	1.000	2.656	1.437	.11	.10
217*•	1.375 to 1.500	NI-CAD	.812	1.218	1.468	.20	.18
218*•	1.437 to 1.687	NI-CAD	.812	1.375	1.531	.23	.19
219*•	2.000 to 2.500	NI-CAD	.812	1.687	2.156	.25	.20

*Carbon steel clips, SAE 1065 per MIL-S-17919#4, heat treated to spring temper, nickel-plate finish; all others, aluminum per QQ-A-362, no finish. †Clips can hold batteries or components of similar dia. ‡Four #40 mtg. holes spaced .625" x .437". §Single #29 mtg. hole. #Four #40 mtg. holes spaced 1.125" x .437". •Single #22 mtg. hole.

MERCURY BATTERY HOLDERS

Aluminum base and clips with copper, cadmium plated terminals. Contact eyelets of brass NP. Resin impregnated fiber insulating washers.

Keystone No.	Mallory Batteries	Net Each, Lots of 1-19	20-99	Keystone No.	Mallory Batteries	Net Each, Lots of 1-19	20-99
101*	RM 1R	$0.41	$0.36	1132†	TR 176	$0.39	$0.33
103*	RM 3R	.43	.38	1142†	TR 177	.28	.25
104*	RM 4R	.44	.39	173	TR 233	.35	.31
139	ZM 9	.26	.23	1144†	TR 234	.28	.25
139	RM 12R	.26	.23	1133†	TR 235	.44	.42
175	RM 42	.35	.31	185	TR 236	.53	.42
1113†	TR 113	.39	.33	111*	RM 400	.41	.36
1114†	TR 114	.39	.33	124	RM 401	.26	.23
132	TR 115	.35	.31	166	RM 411	.35	.31
139A	TR 126	.31	.28	177	RM 412	.35	.31
132	TR 132	.35	.31	183	RM 413	.35	.31
139	TR 133	.26	.23	112*	RM 450	.41	.36
134	TR 134	.44	.39	139	RM 502	.26	.23
135	TR 135	.44	.39	1116†	RM 601	.39	.33
189	TR 136	.53	.42	117*	RM 625	.41	.36
1125†	TR 137	.39	.33	126*	RM 630	.41	.36
1145†	TR 145	.39	.33	118*	RM 640	.41	.36
124	TR 152	.26	.23	127*	RM 675	.41	.36
106	TR 153	.35	.31	119	302351	.44	.39
1113†	TR 162	.39	.33	120	302478	.44	.39
132	TR 163	.35	.31	121	302642	.44	.39
109	TR 164	.35	.31	122	302435	.44	.39
110	TR 165	.44	.39	139	302437	.26	.23
189	TR 169	.53	.42	173	302599	.35	.31
124	TR 175	.26	.23				

*Available with phosphor bronze spring, phenolic base only. †Available in steel only; one insulated contact.

RETAINER CLIPS FOR HOLDERS

Made of spring tempered, nickel plated, high carbon steel.

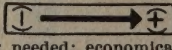
Keystone No.	Battery Type	Holders	Net Each, Lots of 1-19	20-99
61	AA	91, 92, 95, 99, 100	$0.05	$0.04
62	C	86, 87, 93	.05	.04
63	D	88, 89, 94	.06	.05
66	Mercury*	92, 99, 100	.05	.04

*For use with .650" dia. types.

INSULATING POLARIZING WASHERS

Precision molded plastic washers prevent short circuits in transistor equipment. The washers hold securely when snapped over the eyelets used on Keystone standardized battery holders.
Keystone No. 59 (Red) or **No. 60** (Black)—Net Each, Lots of 1-19.....**$0.04**; 20-99.....**$0.03**

POLARITY INDICATING LABELS

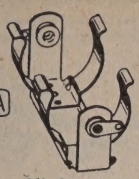


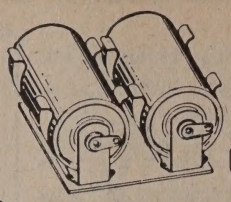
Use wherever proper polarity of battery insertion or circuit polarity is to be shown. Two colors: (+) positive side red; arrow and (—) side, blue. No gluing or wetting needed; economical, pressure sensitive adhesive back; adheres to all surfaces. Size, 1⅜" x ¼".
Keystone No. 58—Net per 100.....**$0.90**

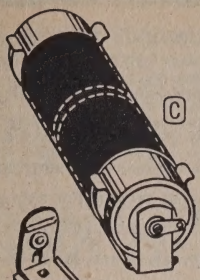
SPECIAL BATTERY HOLDERS CAN BE BUILT TO YOUR SPECIFICATIONS. WRITE FOR INFORMATION.

KEYSTONE Steel Battery Holders

A — One Contact Insulated


All Contacts Insulated


B


C

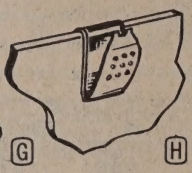
D — One Contact Insulated

All Contacts Insulated

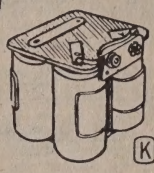
E

F

G


H

J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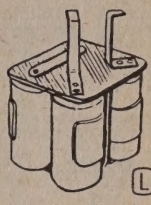

L

Hold batteries under spring tension at constant pressure assuring low resistance contact. Multi-cell series types have sturdy insulating tube. Ideal for nickel-cadmium, mercury and alkaline cells. Made of SAE 1065 carbon steel to MIL Spec. 17919, heat treated to spring temper and nickel-plated .0002″ thick. Contact assembly consists of a stainless steel eyelet, moistureproof vulcoid washers and coated copper solder lug. Nickel-plated carbon steel base ribbed for added support, has two mounting holes. Modifications available: Jumpers, which save wiring; printed circuit solderless connectors or quick disconnect lugs; polarized contacts to insure proper insertion of batteries; or multiple units with any of the foregoing modifications.

STEEL HOLDERS FOR MERCURY BATTERIES

For single batteries.

For Mallory Battery	Fig.	One Contact Insulated Keystone No.	Net Ea., Lots 1-19	20-99	All Contacts Insulated Keystone No.	Net Ea., Lots 1-19	20-99
RM1R	D	1101	$0.39	$0.33	2101	$0.39	$0.37
RM3R	D	1103	.39	.33	2103	.39	.37
RM4R	D	1104	.39	.33	2104	.39	.37
ZM9	A	1139	.28	.25	2139	.33	.29
RM12R	A	1139	.28	.25	2139	.33	.29
RM42	A	1175	.39	.33	2175	.39	.36
TR113	D	1113	.39	.33	2113	.39	.37
TR114	D	1114	.39	.33	2114	.39	.37
TR115	D	1132	.39	.33	2132	.39	.37
TR132	D	1132	.39	.33	2132	.39	.37
TR133	A	1139	.28	.25	2139	.33	.29
TR134	A	1134	.39	.33	2134	.39	.37
TR135	A	1135	.39	.33	2135	.44	.41
TR136	A	1189	.44	.42	2189	.44	.42
TR137	A	1125	.39	.33	2125	.39	.37
TR145	D	1145	.39	.33	2145	.39	.37
TR162	D	1113	.39	.33	2113	.39	.37
TR163	D	1132	.39	.33	2132	.39	.37
TR164	A	1109	.39	.33	2109	.39	.37
TR165	A	1110	.39	.33	2110	.39	.37
TR169	A	1189	.44	.42	2189	.44	.42
TR176	D	1132	.39	.33	2132	.39	.37
TR177	A	1142	.28	.25	2142	.33	.29
TR233	A	1173	.39	.33	2173	.39	.36
TR234	A	1144	.28	.25	2144	.33	.29
TR235	A	1133	.44	.42	2133	.50	.45
TR236	A	1185	.55	.50	2185	.55	.54
RM502	A	1139	.28	.25	2139	.33	.29
RM601	D	1116	.39	.33	2116	.39	.37
302351	A	1119	.39	.33	2119	.39	.37
302478	A	1120	.44	.42	2120	.50	.45
302642	A	1121	.44	.42	2121	.50	.45
302437	A	1139	.28	.25	2139	.33	.29
302599	A	1173	.39	.33	2173	.39	.36

SPACE SAVER BATTERY CLIPS (FIG. E)

Available with insulated or dimple contacts. Positive contacts grip battery securely. Corrosion-resistant, stainless steel contacts; carbon steel SAE 1065, nickel-plated frame. Copper terminal lugs per QQ-C-576A, cadmium plated per QQ-P-416.

Keystone No.	Holds Bat. Dia., Inches	For Cells	Height, Inches	Net Ea., Lots of 1-19	20-99
86*	.875 to 1.125	C	.937	$0.10	$0.09
87	.875 to 1.125	C	.937	.16	.14
88	1.187 to 1.350	D	1.187	.20	.18
89*	1.187 to 1.350	D	1.187	.12	.10
99*	.531 to .650	AA	.609	.06	.05
100	.531 to .650	AA	.609	.10	.09

*Dimple contact, all others insulated contact.

PENCELL SNAP-ON CLIPS (FIG. H)

Ideal for molded cases, self anchoring, low cost, snag-free battery insertion. Clips over panels from .060″ to .070″ thick and is anchored by sharp barbs, eliminating the need for special grooves, slots or holes. External solder ear holes wire for easy soldering.
Size: 5/16″ wide x 7/16″ high.
Keystone No. 209—Net Each, 1-19 . . . **$0.07**; 20-99 . . . **$0.06**

REPLACE-A-PAK BATTERY HOLDER

Ideal for flashlites and lanterns; holds 4 D cells in limited space. Wired in series for 6 volts. **Size:** 2¾″ square base x 2¾″ high.

Keystone No.	Fig.	Type of Contacts	Net Each, Lots of 1-19	20-99
215	L	Brass Leg	$1.35	$1.21
216	K	Snap	1.50	1.35

PENCELL HOLDERS

Hold NEDA battery types 15, 15A, 1103, 1107; Burgess Z, HG9, CD6, 9R, HG12R, H133, HG502R, 920, 930; Eveready E9, E12, E91, E133, E502, N46, 515, 915, 1015, BA58; RCA VS034A, VS144, VS149, VS313A, VS334.

Holds Cells	Fig. No.	One Contact Insulated Keystone No.	Net Ea., Lots 1-19	20-99	All Contacts Insulated Keystone No.	Net Ea., Lots 1-19	20-99
1	A	1139	$0.28	$0.25	2139	$0.33	$0.29
2	B	.....	.....	.....	2140*	.50	.47
3	B	.....	.....	.....	2171*	.77	.72
4	B	.....	.....	.....	2182*	.88	.83
2	C	1189	.44	.42	2189	.44	.42
3	C	1191	.50	.45	2191	.50	.44
4	C	1194	.55	.53	2194	.61	.56

*Clips mounted on phenolic 1/16″ thick per MIL Spec. 3115B.

"C" CELL HOLDERS

Holds NEDA battery types 14, 1300, 1600; Burgess 1, P6, 120, 130, H233, 302599; Eveready E93, 226, E233, 635, 935, 1035, BA42; RCA VS035A, VS300, VS335, VS400.

Holds Cells	Fig. No.	One Contact Insulated Keystone No.	Net Ea., Lots 1-19	20-99	All Contacts Insulated Keystone No.	Net Ea., Lots 1-19	20-99
1	A	1173	$0.39	$0.33	2173	$0.39	$0.36
2	B	.....	.....	.....	2174*	.66	.65
3	B	.....	.....	.....	2187*	.88	.83
4	B	.....	.....	.....	2188*	1.16	1.05
2	C	1185	.55	.50	2185	.55	.54
3	C	1195	.55	.53	2195	.61	.56
4	C	1198	.61	.56	2198	.66	.63

*Clips mounted on phenolic 1/16″ thick per MIL Spec. 3115B.

"D" CELL HOLDERS

Hold NEDA battery type 13; Burgess 2, 2R, CD7, 210, 230; Eveready BA30, E42, N56, E95, D99, A100, 950, 1050; RCA VS036, VS036A, VS336.

Holds Cells	Fig. No.	One Contact Insulated Keystone No.	Net Ea., Lots 1-19	20-99	All Contacts Insulated Keystone No.	Net Ea., Lots 1-19	20-99
1	A	1175	$0.39	$0.33	2175	$0.39	$0.36
2	B	.....	.....	.....	2176*	.66	.65
3	B	.....	.....	.....	2190*	.94	.88
4	B	.....	.....	.....	2192*	1.16	1.05
2	C	1186	.53	.48	2186	.55	.54
3	C	1199	.61	.56	2199	.66	.62
4	C	1162	.66	.59	2162	.72	.68

Holds NEDA type 927; Eveready E94.

1	A	1179	$0.39	$0.33	2179	$0.39	$0.37

*Clips mounted on phenolic 1/16″ thick per MIL Spec. 3115B.

ECONOMY CLIPS

Used with non-metallic bases. Single eyelet mount; non-rotating tab except no. 67; recessed contact holds battery contact firmly.

Keystone No.	Fig.	For Cells	Dimensions, Inches Height	Width	Depth	Net Ea., Lots 1-19	20-99
206	F	AA	.500	.375	.609	$0.05	$0.04
207	G	C	.875	.687	.687	.06	.05
208	G	D	1.290	.687	.765	.08	.07
67*	G	D	1.290	.687	.765	.07	.06

*.156″ mounting hole; all others, .128″.

ECONOMY BATTERY HOLDERS (FIG. J)

Mounted on a 1/8″ thick Masonite base. Set in clip recess; center clip not usually needed. Easy to assemble multiple units, either side by side or in line.

Keystone No.	For Bat. or Eq. Eveready No.	Dimensions, In. H.	W.	D.	Net Ea., Lots 1-19	20-99
212	AA, E9, E12, 505, 915	.500	.625	2.125	$0.16	$0.14
213	C, 935	.875	1.000	2.125	.18	.16
214	D, 950	1.290	1.000	2.406	.20	.17

Mueller Test and Battery Clips

GENERAL PURPOSE TEST CLIPS

No. 48-B: Small, general purpose clip used as standard equipment on ignition test sets, electroplating racks, etc. Length, 2". Jaws open ½".
No. 48-C: Same as above, but solid copper; suitable for testing highly rated auto generators. Good current-carrying capacity.
No. 50-C: Solid copper clip with sharp needle in one jaw to pierce wire insulation for immediate electrical contact. Popular for quick connection of trailer lights; used by phone linemen, auto and electrical testing, etc. Jaws make solid contact on round stud terminals. Brass screw; non-corroding beryllium-copper alloy needle. Length, 2¼". Jaws open ½".
No. 51-C: Same as No. 50-C, but without needle. For railway signal work and meter testing. High current-carrying capacity.
No. 27: 20-amp capacity clip used with test sets, voltmeters and shop testing devices. Meshing teeth on all three sides of jaw. Length, 2⅞". Jaws open ⅝".
No. 27-C: Finest clip made for accurate test work. Same as No. 27, but solid copper; 40-amp capacity.
No. 22: Twin clip with jaws at both ends that may be opened separately or together. For quick splices and temporary repairs. Length, 2". Jaws open 13/32".

Mueller Number	Fig.	Description	Net Each, Lots of 1-9	10	100
48-B	O	Cadmium-plated steel clip	$0.22	$0.168	$0.134
48-C†	O	Solid copper clip	.32	.238	.191
50-C†	P	Solid copper needle clip	.50	.374	.30
51-C	P	Solid copper test clip	.36	.272	.218
49	.....	Vinyl insulator for above clips*	.21	.159	.127
27	Q	Cadmium-plated steel clip	.26	.196	.157
27-C†	Q	Solid copper, 40-amp clip	.46	.342	.274
29	.....	Vinyl insulator, 27 and 27-C*	.30	.227	.181
22	R	Cadmium-plated steel twin clip	.23	.175	.14

HEAVY-DUTY TEST AND BATTERY CLIPS

Rugged interlocking neck construction. Series 25 has meshing teeth on three sides of jaw. Lead plated steel clips; No. 25, cadmium-plated. Clips with suffix letter **-A** or **-C** have copper shunt to protect spring. Clips rated 100-amp or more have detachable copper solder lug.

Mueller Number	Fig.	Length	Jaws Open	Cap., Amps	Material	Net Each, Lots of 1-9	10	100
24-A	S	2⅞"	¾"	25	Steel	$0.44	$0.33	$0.265
25	Q	3"	¾"	40	Steel	.39	.29	.233
25-C†	Q	3"	¾"	75	Copper	.76	.57	.46
21-A	S	4"	1 1/16"	50	Steel	.78	.59	.47
21-C†	T	4½"	1 1/16"	100	Copper	1.92	1.44	1.15
11-A	T	6"	1⅝"	100	Steel	2.22	1.66	1.33
11-C†	T	6"	1⅝"	200	Copper	3.88	2.91	2.33
26	.....	Vinyl insulator for 24-A, 25 or 25-C*				.49	.366	.293
23	.....	Vinyl insulator for 21-A or 21-C*				.71	.53	.42
13	.....	Vinyl insulator for 11-A or 11-C*				1.39	1.05	.84

"BIG BRUTE" TEST CLIP AND WELDING GROUND CLAMP (FIG. T)

Solid copper clip rated 300 amps capacity; even more on short tests. Equipped with removable copper lug for cable attachment. Improved pin-hinge construction. Widely used as welding ground clamp; many applications in heavy test work, on thawing machines and for grounding gasoline trucks. Length, 7¾". Jaws open 2¼".

Mueller Number	Description	Net Each, Lots of 1-9	10	100
33-C†	"Big Brute" 300-amp solid copper clip	$7.25	$5.45	$4.35
35	Red or black insulator for above	3.99	2.99	2.39

PLIER-TYPE BATTERY CLIPS

Hippo-Clip: For battery booster cables and fast chargers. High quality construction and lead-coated spring assure long-life. Built-in solder-strap and clinching ears for quick cable attachment. Minimum handle spread for easy grip, yet has giant 1 9/16" jaw spread. Furnished with red or black vinyl handle insulators. 6" long. Marked for polarity.
Pigmy-Hippo Clip: For battery operated equipment and automotive usage. Flat, wide handle allows positive grip. Won't "squirt away". Exclusive built-in solder-strap and clinching ears for convenient wire attachment. High quality plated spring. Large, 1⅛" jaw spread. Furnished with red or black vinyl handle insulators. 3" long.

Mueller Number	Fig.	Description	Net Each
41-A	V	Hippo-Clip, steel, bright copper-plated, 100 amps	$1.50
41-C†	V	Hippo-Clip, solid copper construction, 200 amps	4.00
46-A	U	Pigmy-Hippo Clip, steel, bright copper-plated, 50 A	.44
46-C	U	Pigmy-Hippo Clip, solid copper construction, 75 A	.74

*Specify red or black; also available in yellow, blue, white or green, priced 10% higher.
†Fed. Spec. W-C-440a, Feb. 5, 1964.

QUALITY, HEAVY-DUTY BATTERY BOOSTER CABLES (FIG. W)

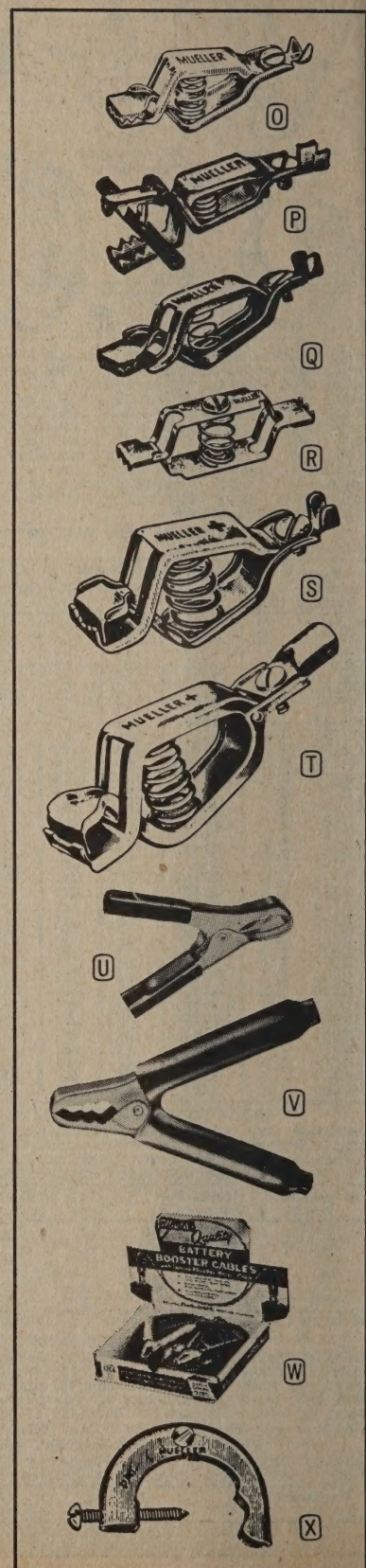
For connecting external, booster battery to "dead" battery in a disabled vehicle. Pure copper cables are finely stranded with rubber insulation for high flexibility even in the coldest weather. Equipped with Hippo-Clips (described above) which are both clinched to cable insulation and soldered for genuine trouble-free operation. Nos. 8A6 and 12A6 have 6 ga. cable with 259 strands of #30 copper wire. No. 12C4 has 4 ga. cable with 413 strands of #30 copper wire. Each set furnished in attractive display carton.

Mueller Number	Length, Ft.	Cable Gauge	Clip No.	Cap., Amps	Net per Pair
8A6	8	6	41-A	100	$18.50
12A6	12	6	41-A	100	24.50
12C4	12	4	41-C	200	40.00

GENERAL PURPOSE CLAMPIPE GROUND CLAMP (FIG. X)

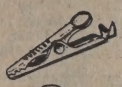
Commonly used for grounding appliances and all kinds of electrical devices. Patented, channeled construction gives 5-point contact with extreme rigidity. Pointed screw cuts through to clean, fresh metal for good contact. Takes pipes up to 1⅜" O.D.

Mueller Number	Description	Net Each, Lots of 1-9	10	100
58	ClamPipe ground clamp	$0.44	$.0328	$0.262



A

B


C

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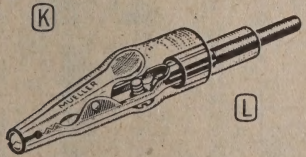
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M

N

34 SERIES MICRO-GATOR CLIPS

Smallest insulated clip ever made. Microscopic tip can be used where no other clip will do: Printed circuits, tight spots and crowded, tiny terminals. Same speed, free-handed ease and convenience as other Mueller clips. When used with separate, skin-tight insulator, the tip is no bigger than the head of a pin; yet, has ample thumb grip. Sure bite to stand up straight on the smallest terminals; 1/2" jaw spread; length, 1 3/4". Solder connection, separate insulator with "lip-action" tip. Locked ear construction for strong hinge. For No. 20 wire or smaller.

Mueller Number	Fig.	Description	Net Each, Lots of 1-9	10	100
34	A	Cadmium-plated steel Micro-gator	$0.09	$0.066	$0.053
34-C	A	Solid copper Micro-gator	.12	.086	.069
36	B	Vinyl insulator*	.06	.044	.035

MINI-GATOR CLIPS

The original miniature alligator clip, improve rivet hinge construction, full-meshing jaw teeth. Ideal for testing miniaturized and subminiaturized equipment. Strong spring gives bite through protective coatings. Easy solder connection. Takes No. 20 or smaller wire. Jaws open 3/16". Length, 1 1/2". Nose 1/64" O.D., including insulator, which has "lip-action" tip.

Mueller Number	Fig.	Description	Net Each, Lots of 1-9	10	100
30	C	Cadmium-plated steel Mini-gator	$0.11	$0.082	$0.066
30-C†	C	Solid copper Mini-gator	.13	.10	.08
32	D	Vinyl insulator*	.06	.044	.035

70 SERIES ALLIGATOR CLIPS

Streamlined, simplified design for low cost efficiency. Cord strain relief ears prevent breakage of lead wire. Makes screw connection faster; soldering easier. Improved meshing teeth; knurled thumb grip and trim shape are ideal for test work in close quarters. Length 1 11/16". Jaws open 5/16". Separate insulator has "lip-action" tip so jaws stay covered whether open or closed.

Mueller Number	Fig.	Term. Type	Body Metal	Net Each, Lots of 1-9	10	100
70	E	Solder	Cadmium-plated steel	$0.11	$0.081	$0.065
70-S	E	Screw	Cadmium-plated steel	.13	.098	.078
70-CS†	E	Screw	Solid copper	.22	.168	.135
72	F	.....	Vinyl insulator*	.08	.061	.049

60 SERIES ALLIGATOR CLIPS

New slim-jaw design allows nose of clip to make friction fit in binding post or banana jack. Full meshing teeth grip even finest wires. Barrel connection for banana plug or wire. Small lip for soldering; or, wire may be staked in barrel using staking tool. Strong hinge prevents jaw offset; spring gives hard bite. Available with screw connection, insulated barrel or fully insulated. Jaws open 5/16". Length 2" on uninsulated models; 2 11/32", models with insulated barrel, 63 and 63-C: Length, 2 1/8"; jaws open 1/4"; nose, 13/64" O.D.

UNINSULATED 60 SERIES

Mueller Number	Fig.	Term. Type	Body Metal	Net Each, Lots of 1-9	10	100
60	G	Solder	Cadmium-plated steel	$0.14	$0.102	$0.081
60-S	G	Screw	Cadmium-plated steel	.16	.118	.095
60-NS§	G	Screw	Cadmium-plated steel	.30	.228	.182
60-CS†	G	Screw	Solid copper	.25	.187	.149
60PR-2	K	‡	Cadmium-plated steel	.20	.151	.121
62	H	.....	Vinyl insulator*	.09	.071	.057

INSULATED 60 SERIES

60-HS	J	Screw	Cadmium-plated steel; insul. barrel	$0.22	$0.164	$0.131
60-CHS†	J	Screw	Solid copper; insulated barrel	.30	.228	.182
63	L	Screw	Cadmium-plated steel; fully insul.	.30	.228	.182
63-C	L	Screw	Solid copper; fully insulated	.36	.273	.218

PEE-WEE CLIPS (FIG. M)

Very small clip for general test purposes. Jaw teeth mesh. Interlocking necks prevent jaw offset. Jaws open 5/16". Length, 1 1/2". Screw connection. No. 45-C is completely non-ferrous; has phosphor bronze spring and brass screw. Jaws open 1/4".

Mueller Number	Description	Net Each, Lots of 1-9	10	100
45	Cadmium-plated steel Pee-Wee clip	$0.14	$0.104	$0.084
45-C†	Solid copper Pee-Wee clip	.26	.196	.157
47	Vinyl insulator*	.11	.086	.069

CROCODILE CLIPS (FIG. N)

Designed for test work in close quarters. Nesting teeth give solid contact along entire length of jaw. Jaws open 5/16". Length, 2 1/8". Screw terminal connection. No. 85-C is completely non-ferrous version with brass screw and phosphor-bronze spring. No. 85-T is equipped with standard phone tip on one jaw; otherwise is identical to No. 85; permits use as prod or for clip connections, etc.; length, 2 5/8".

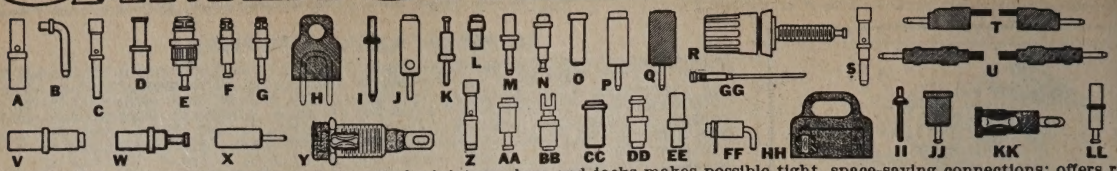
Mueller Number	Description	Net Each, Lots of 1-9	10	100
85	Cadmium-plated steel crocodile clip	$0.16	$0.12	$0.096
85-C†	Solid copper, non-ferrous crocodile clip	.32	.243	.195
85-T	"Tip-clip" cadmium-plated steel crocodile	.42	.314	.251
87	Vinyl insulator*	.11	.082	.065

*Specify red or black; also available in yellow, blue, white or green, priced 10% higher. †Fed. Spec. W-C-440b, Aug. 11, 1970. ‡Crimped barrel for tight friction-fit on standard phone tip or test prod tip. §Like No. 60-S, except with beryllium copper needle in one jaw for making electrical contact through insulation of wire.

CAMBRIDGE THERMIONIC CORPORATION

CAMBION®

MINIATURE PLUG AND JACK CONNECTORS



CAMBION'S wide variety of sizes and shapes of miniature plugs and jacks makes possible tight, space-saving connections; offers reliable "pluggability" for individual components or assemblies and provides unique PC board design possibilities with patching to or from boards. Positive grip, with low contact resistance after may repeated insertions and extractions. Insulated or noninsulated types —units for swaging, dip-soldering, press mount or threaded stud mounting. **To Order:** Use Cambion Type No. (1521); add Dash No. from "Recommended Board Thickness" column to indicate board thickness or patch cord length, as the case may be. Final suffix shown indicates finish; **03**, Gold; **04**, Electro-Tin; **05**, Electro-solder; **08**, Bright Alloy plating.

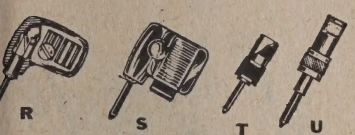
Cambion Type Number	Fig.	Pin Dia.	Description	Recommended Board Thickness per Dash Number 1/32	1/16	3/32	1/8	3/16	Net Each, Lots of 25-99	100-499	500-999	1000-2499*
0016-1-03	A	.062	Jack for patch cord use; MS-3190 crimp barrel, size 16						$0.64	$0.49	$0.45	$0.40
1521-1/3-03	B	.040	Pin-plug	-1	-2	-3	.....	.....	.....	.121	.106	.094
1781-1-03	C	.061	Taper pin	.....	.....	.....	.....	.....	.....	.163	.016	.123
2186-1/6-04	D	.061	Taper pin	-1	-2	-3	-4	-5•	.....	.072	.063	.056
2265-1/4-03	E	.080	Jack-term.	.....	-1	-2	-3	-4	.47	.52	.48	.43
2378-1/5-03	F	.045	Jack-term.	-1	-2	-3	-4	-5	.68	.52	.48	.43
2378-1/5-08	F	.045	Jack	-1	-2	-3	-4	-5	.47	.36	.33	.30
2650-1/5-03	G	.045	Plug-jack	-1	-2	-3	-4	-5	.79	.61	.56	.50
2871-1-03†	H	.040	Shorting plug; pins on .200″ centers						.47	.36	.33	.30
2871-2-03†	H	.040	Shorting plug; pins on .250″ centers						.47	.36	.33	.30
2970-1/3-03	I	.040	Pin	-1	-2	-3	.....	.....	.....	.064	.057	.051
2971-1/3-03	I	.040	Pin	-1	-2	-3	.....	.....	.....	.054	.047	.042
3078-1-03	J	.025	Plug-jack	-1	-2	-3	-4	.....	.47	.36	.33	.30
3202-1/3-03	K	.025	Pin	-1	-2	-3	.....	.....	.....	.054	.047	.042
3220-1/4-05	I	.045	Pin	-1	-2	-3	-4	.....	.....	.033	.029	.026
3230-1-03	L	.025	Jack for .031″ to .062″ boards						.56	.43	.40	.35
3231-1/3-03	I	.025	Pin	-1	-2	-3	.....	.....	.....	.079	.069	.061
3232-1/3-03	I	.040	Pin	-1	-2	-3	.....	.....	.....	.075	.066	.059
3233-1/3-03	I	.040	Pin	-1	-2	-3	.....	.....	.....	.063	.055	.049
3263-1/4-03	M	.025	Plug-jack	-1	-2	-3	-4	.....	.66	.51	.47	.42
3266-1/4-03	N	.016/.020	Jack-term.	-1	-2	-3	-4	.....	.56	.51	.47	.42
3268-1-03	O	.016/.020	Jack for .031″ to .156″ boards						.56	.43	.40	.35
3278-1-03	P	.040/.080	Plug-jack adapter						.37	.28	.26	.23
3279-1-03	Q	.040/.080	Insulated 3278						.64	.49	.45	.40
3284-1-03*	R	.040	Insulated binding post with insulated jack						.81	.62	.58	.51
3285-1-03*	R	.080	Insulated binding post with insulated jack						.98	.75	.70	.62
3286-1-03	CC	.040	Jack same as 3388, but with thru-hole						.28	.22	.20	.18
3293-1-03	L	.025	Jack same as 3230, but with thru-hole						.28	.22	.20	.18
3299-1/3-03	S	.080	Crimp-barrel plug; pin lgth.: -1 (.200″) -2 (⅜″) -3 (½″)						.....	.157	.139	.123
3300-1/3-03†	T	.040	Patch cord	-1 (2″)	-2 (4″)	-3 (6″)	.....	.....	1.35	1.16	1.01	.92
3300-4/5-03†	T	.040	Patch cord	.....	.....	.....	-4 (8″)	-5 (12″)	1.44	1.23	1.08	.97
3301-1-03†	T	.040	Patch cord—"Piggy-back assembly"						.64	.49	.45	.40
3306-2/3-03†	U	.040	Patch cord	.....	-2 (4″)	-3 (6″)	.....	.....	.86	.73	.64	.58
3306-4/5-03†	U	.040	Patch cord	.....	.....	.....	-4 (8″)	-5 (12″)	.97	.83	.72	.66
3308-1-03	O	.040	Pin—I. D. for wire						.....	.137	.120	.106
3309-1/4-03	V	.025/.040	Jack-jack	.....	-1	-2	-3	-4	.68	.52	.48	.43
3310-1/5-03	M	.040	Plug-jack	-1	-2	-3	-4	-5	.66	.51	.47	.42
3320-1/5-03	W	.040	Jack-term.	-1	-2	-3	-4	-5	.66	.51	.47	.42
3324-1/5-03	W	.062	Jack-term.	-1	-2	-3	-4	-5	.66	.51	.47	.42
3327-1-03	X	.025	Plug-jack adapter—.025 pin/.040 jack dia.						.37	.28	.26	.23
3358-1-03*	Y	.080	Nylon-insulated jack (MS16108-1C thru -11C)						.59	.45	.42	.37
3359-1-0319	Y	.080	Teflon‡-insulated jack (MS16108-12C)						.59	.45	.42	.37
3367-1-03	Z	.040	Jack for patch cord usage						.56	.43	.40	.35
3368-1-03	S	.062	Pin-crimp barrel plug for patch cord use						.....	.148	.129	.115
3375-2/5-03	AA	.025	Rivet-type jack-ter.	.....	.....	-2	-3	▪	.66	.51	.47	.42
3378-1-03	Z	.040	Jack for patch cord usage with 3367 jack						.66	.51	.47	.42
3379-2/5-03	BB	.040	Jack-term.	.....	-2	-3	-4	-5	.71	.55	.50	.45
3381-1-03*	Y	.080	Nylon-insulated jack (MS16108-1A thru 11A)						.59	.45	.42	.37
3382-1-0319	Y	.080	Teflon-insulated jack (MS16108-12A)						.64	.49	.45	.40
3388-1-03	CC	.040	Jack for .031″ to .156″ boards						.56	.43	.40	.35
3389-2/3-03†	T	.025	Patch cord	.....	-2 (4″)	-3 (6″)	.....	.....	1.35	1.16	1.01	.92
3389-4-03†	T	.025	Patch cord	.....	.....	.....	-4 (8″)	.....	1.44	1.23	1.08	.97
3390-1-03	S	.025	Plug-jack patch cord assembly with 3078 plug-jack						.53	.41	.38	.33
3391-2/3-03†	T	.080	Patch cord	.....	-2 (4″)	-3 (6″)	.....	.....	2.73	2.34	2.05	1.85
3391-4/5-03†	T	.080	Patch cord	.....	.....	.....	-4 (8″)	-5 (12″)				
3392-1/4-03	DD	.040	Jack-jack	.....	-1	-2	-3	-4	.71	.55	.50	.45
3393-1/4-03	I	.025	Pin	-1	-2	-3	-4	.....	.....	.048	.042	.037
3394-1/4-03	EE	.025	Jack	-1	-2	-3	-4	.....	.56	.43	.40	.35
3398-1-03	CC	.080	Jack for .031″ to .250″ boards						.66	.51	.47	.42
3422-1-03	FF	.040	Side mount jack for boards to .078″ max.						.68	.52	.48	.43
3703-1-03	CC	.025	Jack for .031″ to .094″ boards						.28	.22	.20	.18
3704-1-03	CC	.040	Jack for .031″ to .156″ boards						.28	.22	.20	.18
3705-1/3-03†	T	.040	Molded patch cord	-1 (2″)	-2 (4″)	-3 (6″)	.....	.....	1.50	1.28	1.12	1.01
3705-4/5-03†	T	.040	Molded patch cord	.....	.....	.....	-4 (8″)	-5 (12″)	1.61	1.38	1.21	1.09
3745-1-03	GG	.022 rd.	Jack/Wire Wrap* term. for .062″ to .188″ boards						.51	.39	.36	.32
3750-1-03	O	.022 flat	Jack for .031″ to .188″ boards						.28	.22	.20	.18
3771-1-03†	H	.040	Shorting plug; pins on .400″ centers						.53	.41	.38	.33
3771-2-03†	H	.040	Shorting plug; pins on .500″ centers						.53	.41	.38	.33
3772-1/2-03	O	.016/.020	Jack for .031″ to .188″ boards; -2 has thru-hole						.28	.22	.20	.18
3775-1-03†	HH	.040	Shorting jack; jack pins on .200″ centers						1.05	.81	.75	.66
3776-1-03†	HH	.040	Shorting jack; jack pins on .400″ centers						1.16	.89	.82	.73
3844-1-03	GG	.018 flat	Jack/Wire Wrap term. for .062″ to .188″ boards						.51	.39	.36	.32
3888-1-03	FF	.080	Side mount jack for .125″ max. board thickness						1.20	.92	.85	.76
3889-1-03	II	.025	Pin for ½″ board thickness						.....	.061	.053	.047
4351-1-03§	JJ	.045	Teflon-insulated jack for .031″ to .094″ boards						1.02	.79	.72	.64
4352-1-03§	JJ	.040	Teflon-insulated jack for .031″ to .094″ boards						.56	.43	.40	.35
4353-1-03§	JJ	.040	Teflon-insulated jack for .031″ to .094″ boards						.56	.43	.40	.35
4354-1-03§	KK	.080	Teflon-insulated jack for .031″ to .125″ boards						.71	.55	.50	.45
4355-1-03§	KK	.080	Teflon insulated jack for .031″ to .125″ boards						.40	.31	.28	.25
7004-1-03	O	.030	Jack for .031″ to .188″ boards						.56	.43	.40	.35
7005-1/5-03	LL	.030	Jack	-1	-2	-3	-4	-5	.66	.51	.47	.42

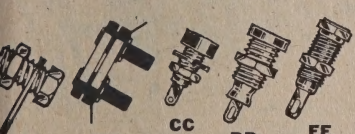
*Available with black (suffix **10**) or red (suffix **12**) insulation. †Available with black (suffix **10**), red (suffix **12**) or blue (suffix **16**) wire insulation. §Available with black (suffix **10**), red (suffix **12**) or white (suffix **19**) insulation. ‡Reg. DuPont TM. •Use -6 for ¼″ bd. thickness. ▪Order -4 for 5/32″ bd. thickness, -5 for 7/32″ bd. thickness. *Reg. Gardner-Denver TM. ‡Lots of 10–99.

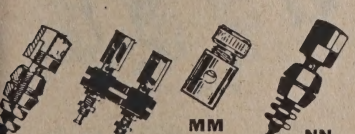
***Larger Quantity Prices on Request. SEND FOR CAMBION CATALOG FOR DATA ON ALL PRODUCTS.**

GC ELECTRONICS

Test Jacks, Plugs and Posts







BANANA PLUGS AND ADAPTERS

G-C No. 6-603 Red	Black	Fig.	Description	Net Price Each	100*
000	002	A	Plastic handle; hex brass body; internal stud for solderless or soldered connection	$0.58	$48.16
006	008	B	Same, but set-screw, lead wire connection through handle	.49	40.88
.....	010	C	Plastic body; nickel-plated brass plugs; stackable; fits dual binding posts; polarity marked	1.90	157.66
012	014	D	Cross slotted plug, nickel-plated brass body; brass stud for solderless or soldered connection	.54	44.66
018	020	E	Same, but set-screw, lead wire connection through handle	.42	34.99
024	026	F	Midget; plastic handle; lead wire connection solders to drilled body	.40	33.28
028-1	028-2	A	Plastic handle; hex brass body; cross-drilled hole in threaded spacer for solderless leads	.72	59.89
032-1	032-2	B	Plastic handle; wire solders to plug, or solderless	.51	42.16
034*	.....	G	Four leaved; threaded shank; terminal lug, hex nut	.40	33.28
036-1	036-2	A	Insulated type; butyrate handle; fits standard banana jack.	.66	54.99
037-1	037-2	M	Insulated type; solderless connection, nylon handle; fits standard banana jack	.52	43.61
046	048	H	Right angle "gun" tip; plastic handle; lead wire solders to body; single screw-and-nut assembly	.64	53.23
058*	.....	I	Threaded shank type; with terminal lug and hex nut	.40	33.28
062*	.....	J	Panel mount type; 6-32 tapped body; screw and term. lug	.40	33.28
064*	.....	I	Threaded shank type; with terminal lug and hex nut	.42	34.88
068*	.....	K	Subminiature; silver-plated spring; body rivets to term. board; wire solders to turret; fits jacks .104" I.D.	.27	22.61
072	074	L	Adapter for tip plug to banana plug; insul. handle	.93	77.49
084-1	084-2	O	Stack type; four leaved phosphor bronze, nickel plated spring; plastic handle; fits banana plugs in top and side	1.24	103.32
086-1	086-2	O	33-084-1 except beryllium copper nickle-plated spring	1.24	103.32

TIP PLUGS

106	108	N	Insulated solderless tip plug; unbreakable plastic handle	$0.42	$34.99
116-1	116-2	P	Plastic handle version of 33-154; hollow tip	.20	16.73
118	120	Q	Short tip plug; wire solders to body; plastic handle	.38	31.78
128	130	R	Right angle tip plug; wire (to 5/64" insul.) solders to body; half-shell plastic handle assembles with nut/screw	.48	39.93
132	134	S	"Trigger-quik", similar to No. 33-128 but spring-load solderless connection, trigger action	.62	51.89
142*	.....	T	Press-fit, solderless "Jr."; wire fastens under collar	.28	23.61
144-1	144-2	N	Same, but with plastic handle added	.36	29.99
145-1	145-2	V	Insulated, short tip type; nickel plated brass plug with nylon handle. Fits standard phone tip jack	.46	38.49
146*	.....	U	All-metal, solderless tip plug with knurled collar	.37	30.83
154*	.....	P	Standard hollow phone tip; nickel-plated brass	.06	5.68
156*	.....	W	Solid phone tip of nickel-plated brass	.08	7.06

BANANA AND TIP JACKS

.....	179	BB	Insulated, dual banana jack; brass body; brass tinned solder lugs; require two 3/8" holes to 1/4" thick	$1.06	$87.99
180	182	X	Molded plastic banana jack; brass body; tinned solder lug, washer and nut; fits 5/16" hole; panels to 3/8" thick	.28	23.83
184*	.....	....	Same as 33-192, but with angled hook lug	.24	19.96
186	188	Y	Heavy duty version of above; lock washer, fiber washer; heavy lug and nut; jack is recessed in phenolic head	.28	23.96
190-1	190-2	Z	Insulated tip jack with hex lock between head and body	.37	30.61
192*	.....	AA	All-metal banana jack; solder lug; hex nut; fits 1/4" hole	.24	19.96
193-1	193-2	GG	Insulated banana jack has molded plastic head with brass body. 5/16" hole up to 3/8" thick Solder to turret terminal.	.31	26.34
194	196	Z	Combination banana and tip jack; molded plastic head; fiber washer, nut; fits 5/16" hole; panels to 3/8" thick	.37	30.89
.....	197	HH	Dual banana and standard tip plug has plastic handle, brass body. Mounts in two 3/8" holes up to 5/16" thk.	1.30	108.12
208-1	208-2	CC	Tip jack; molded plastic head and washer; fits 5/16" holes to 1/4" thick panels	.43	35.93
210	212	CC	Tip jack with plastic head; fiber washer for metal panels	.30	25.43
216	218	DD	All insulated tip jack of molded nylon; phosphor bronze spring; rated 5,000 volts; for 3/8" hole; panels 5/16" th.	.32	26.61
220-1	220-2	X	Miniature, nylon head and washer, banana jack; fits 5/16" hole in panels to 1/4" thick	.40	33.28
226*	.....	EE	All-metal tip jack fits 1/4" hole; panels to 3/4" thick	.46	38.58
242	240	FF	Nylon tip jack; silver-plated beryllium copper contacts recessed in head; solder term.; fits 1/4" hole	.44	36.49
247-1	247-2	....	Nylon feed-thru jack; insulated nylon body. Fits all standard phone tip plugs. Mounts in 1/4" hole to 1/4" thick	.45	37.51

BINDING POSTS

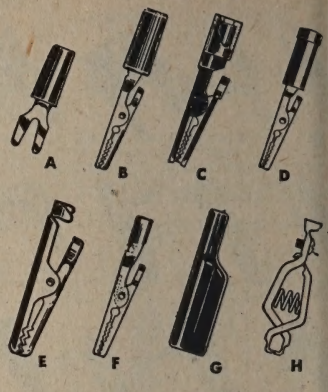
256	258	II	Non-removable plastic head, comb. type; takes banana plug, tip plug, wire or spade lug; 8-32 stud 1/2" lg.	$0.51	$42.16
260	262	II	Same, but with molded shoulder-type plastic washers	.62	51.33
264	266	JJ	Universal insulated type; 8-32 mtg. stud; takes banana plug, tip plug, needle tip, spade lug, alligator clip or wire	.72	59.89
.....	267	II	Molded plastic head, brass body. Stud length 9/16", 8-32 threaded. Supplied with washer and hex nuts.	.43	36.29
268	270	KK	Heavy-duty with captive plastic head; rated 30 amps, 2,000 V rms; takes same as above less needle tip	.81	67.66
272	274	KK	Same, but end of stud milled flat and drilled for soldering	1.04	86.07
275-1	275-2	NN	Nylon head and washer; brass body and inserts. Tip plug receptacle .080" I.D. Fits 3/8" hole up to 1/4" thick.	1.04	86.07
276*	.....	LL	Dual, metal posts with black base 5/8" x 1 3/8"; two 3/8" holes on 3/4" centers fit panels to 1/4" thick	1.94	161.12
278	280	NN	Heavy duty binding post; captive molded plastic head; brass body; insulating spacer. Rated 30 A, 2000 V rms.	.91	75.49
282*	.....	MM	All-metal post with knurled cap; takes banana plug, phone tip or wire; mounts by 6-32 screw (not supplied)	.37	30.61
.....	283	....	Compression type; captive brass head, knurled for finger grip. Brass body. Threaded for 6-32 mounting screw.	.37	30.61
286*	.....	OO	Five-way metal; takes banana plug; 8-32 thd; fits .171" hole on panels to 3/8" thick	.76	63.58
287*	.....	RR	Gold plated, fluted brass, captive head; nylon washer with gold plated brass insert. For use where internal/ground circuit is isolated from chassis or panel	.98	81.78
.....	288	PP	Dual, insulated 5-way post	1.43	118.91
292†	290	QQ	Dual version of 33-268 fits two 3/8" holes on 3/4" ctrs.	1.53	126.84
295†	.....	PP	Dual binding post has captive type nylon head, brass insert. Fits two 3/8" holes up to 1/4" thick.	1.02	84.69
297-1	297-2	RR	Nylon head and washer, gold plated body. Fits 5/16" round or "D" hole in panel. Wrap around solder terminal.	1.22	101.66

*All metal. †One red and one black post. *Larger quantity prices on request.

Jacks, Plugs and Clips

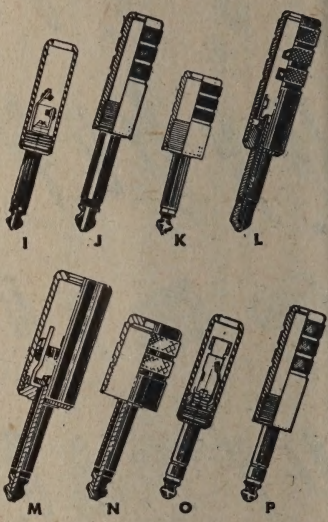
SPADE LUGS, ALLIGATOR AND BATTERY CLIPS

G-C No. 33- Red	Black	Fig.	Description	Net Price Each	100*
300	302	A	Spade lug with molded plastic handle; fits #10 screws; use wire with banana plug or soldered directly	$0.23	$19.16
310	312	B	Alligator clip with plastic handle for banana plug or wire; jaws ⅜" open; cadmium plated steel	.20	17.26
314	316	B	Same, but with 6-32 screw or solder connection of wire	.23	19.16
318	320	B	Same, but of solid copper; 6-32 screw or solder connection	.34	28.33
322	324	B	Same as No. 33-310 but with extra long insulated handle	.22	18.99
326-1	326	C	Alligator clip adapter takes banana plug in molded plastic	.55	45.83
328-1	328	C	Same, but takes tip plug in plastic handle	.89	74.13
330	332	B	Same, but takes either tip or banana plug in handle	.73	60.69
334	336	D	Similar, but adapts std. tip plug to alligator clip	.68	56.38
344*	.....	E	Mini-gator clip is extra small; solder connection; copper	.19	16.34
342*	.....	E	Same, but cadmium plated steel	.16	13.63
346*	.....	F	Metal alligator clip; ⅜" opening; takes banana plug or wire soldered directly; cadmium plated steel	.15	12.74
348*	.....	F	Same, but with 6-32 binding head screw	.18	14.99
350*	.....	F	Same as No. 33-348 but all-copper	.29	24.41
360	362	G	Flexible molded vinyl insulator fits over most allig. clips	.06	5.23
370*	.....	H	Battery connecting, testing clip rated 5 A; ½" jaw spread	.17	14.66
372*	.....	H	Same, but rated 10 amps; 9/16" jaw spread	.22	18.33



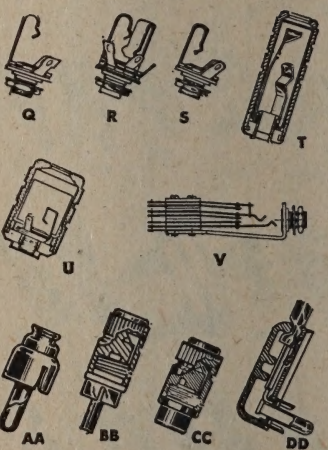
PHONE PLUGS

602	600	I	Standard 2-conductor; screw terminals and plastic handle	$0.92	$76.66
604*	.....	J	Same, but metal, shielded handle	1.45	120.57
608	606	....	2-cond. standard with grounding terminal clamp	.85	70.49
610*	.....	....	Same, but metal, shielded handle	1.35	111.99
612-1	612-2	....	2-conductor standard with solder lugs; plastic handle	.75	62.16
614*	.....	K	Stubby 2-conductor; metal handle; solder lugs	1.19	98.49
616*	.....	J	Standard metal 2-cond. shielded; solder lugs	1.36	113.07
.....	618	....	2-conductor per PJ-055B; solder and screw connection	2.29	189.55
620*	.....	L	Special short barrel 2-cond. for mike or phone pickup to Revere/Wollensak tape recorders	1.41	116.91
624	622	N	Std. 2-conductor; 1½" l. x 11/16" plastic handle; screw term.	1.15	95.82
626*	.....	N	Same, but with 1" l. metal shielded handle	1.64	136.16
628*	.....	M	Same, but with 2 1/16" long metal shielded handle	2.01	166.16
630-1	630-2	....	Clamp and solder lug, plastic handle 2-cond. jack .206" dia.	1.31	108.89
632*	.....	J	Same, but metal handle	1.89	156.41
640-1	640-2	O	3-cond. std. with clamp and solder lug; plastic handle	1.25	103.64
642*	.....	P	Same, but with metal handle	1.85	152.99
646	644	O	Std. 3-cond. with plastic handle; screw terminals	1.40	116.07
648*	.....	P	Same, but with metal handle	1.99	164.49
.....	654	....	Solder, screw term. 3-cond. to meet PJ-068B requirements	5.05	417.98
660*	.....	J	Min. 2-cond. for hearing aids, etc.; tested 500 V breakdown; 1⅜" l. x 9/32" O.D.; metal, shielded handle; combination clamp and solder terminals	1.04	86.67
664	662	....	Same, but with plastic handle	.85	70.49
666*	.....	J	Same as 660, but combination clamp and screw terminals	1.15	95.32
670	668	....	Same, but with plastic handle	.96	79.99



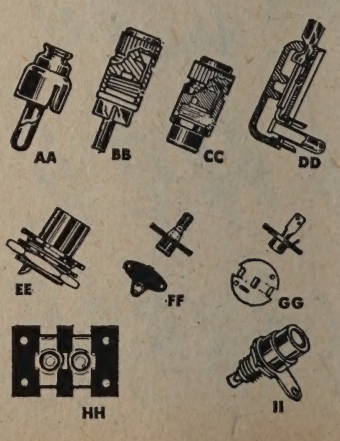
PHONE JACKS

690*	.....	Q	Panel mounting, 2-conductor, open circuit jack	$0.59	$49.16
691*	.....	....	Panel mounting, 2-conductor, open circuit jack. Use with Revere/Wollensak short finger plug No. 33-620	.59	49.16
692*	.....	Q	Same, but closed circuit	.77	64.16
694*	.....	Q	Same as 33-690 but meets JJ-034 requirements	.88	73.49
700*	.....	Q	Open circuit 2-cond.; .210" I.D. sleeve for 33-630/2 plugs	.55	45.59
702*	.....	Q	Closed circuit version of 33-700	.87	72.59
708*	.....	R	Panel mounting, 3-conductor, open circuit jack	.71	59.16
710*	.....	R	Same, but closed circuit	.88	73.19
712*	.....	R	Same as 33-708, but meets JJ-033 requirements	1.25	103.49
720*	.....	S	Miniature, open circuit, panel mount 2-conductor jack; mates with Nos. 33-660 through 33-670 plugs	.50	41.44
722*	.....	S	Same, but closed circuit	.55	45.59
730*	.....	T	Cord mounted, inline 2-cond. open circuit jack; solder lugs	1.65	136.82
.....	732	....	Same, but with plastic handle	1.20	99.49
734*	.....	T	Same as 33-730, but with screw terminals	1.80	149.26
.....	736	....	Black plastic handle version of 33-734	1.35	111.94
740*	.....	T	Cord mounted, 3-cond. open circuit jack; solder lugs	2.10	174.20
742*	.....	T	Same, but with screw terminals	2.30	190.80
746*	.....	U	Miniature, inline cord type; with solder lugs; mates with 33-660 thru 33-670 plugs; metal handle	1.40	116.07
752*	.....	V	3-conductor, single closed circuit, long frame panel mount jack	1.25	103.71



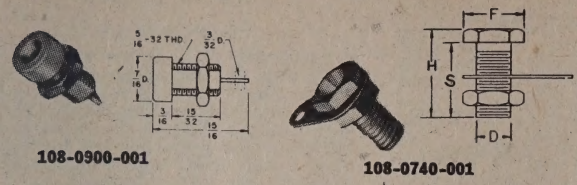
PHONO PIN PLUGS AND JACKS

770*	.....	AA	Solder type phono plug	$0.07	$ 6.04
772*	.....	BB	Combination clamp, solder type plug with removable metal handle	.50	41.44
774*	.....	CC	Cord mounted jack with combination clamp and solder terminal; removable metal handle	.65	53.89
780	778	DD	Solderless, right-angle plug; plastic shell; screw assembly	.41	34.11
776	.....	DD	Same, but gray color	.41	34.11
784	.....	DD	Same, but blue color	.37	31.01
790*	.....	EE	Single-hole mount phono jack; with nut and washer	.51	42.34
792*	.....	FF	2-hole rivet or screw mt. jack; oval metal plate	.12	10.73
796	.....	GG	Same, but round mounting plate	.13	11.31
800	.....	HH	Double phono pin jack 1½" x 1"; four mtg. holes	.21	18.14
802	.....	....	Triple phono pin jack 1 1/16" x 1"; 4 mtg. holes	.30	25.33
803	.....	....	Quadruple phono pin jack	.42	35.13
804	.....	II	Single hole panel mt. phono jack fits 9/32" hole; with nut, washer and solder lug for ground	.43	36.33



*All metal. *Larger quantity prices on request.

BANANA JACKS AND PLUGS, PATCHCORD STACKING PLUGS



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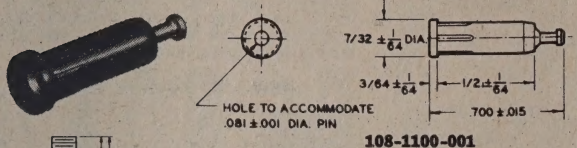

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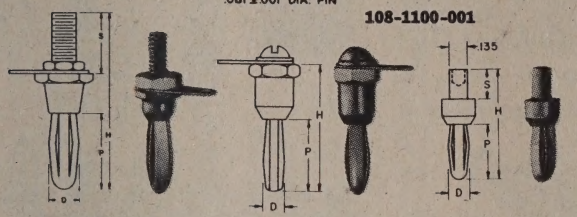

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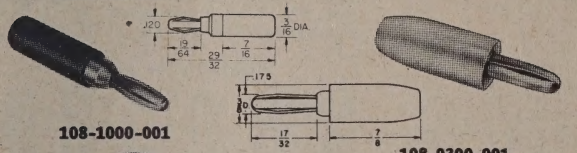

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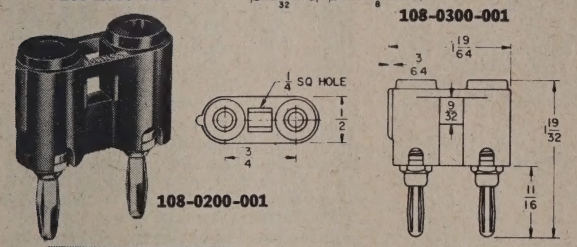

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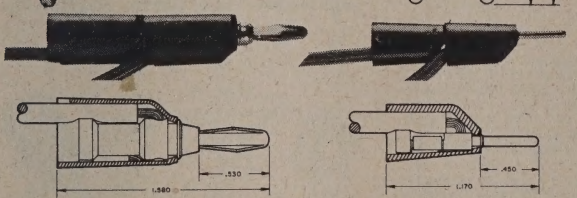

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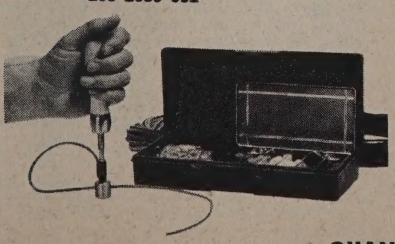


Engineering Kit

BANANA JACKS

Completely insulated molded body with cadmium-plated insert. Accommodates banana plugs of nominal .175″ dia. **Voltage Breakdown:** 10,000 VDC. Capacity to 1/16″ panel, 2.4 pF nom. Mounts in 2 1/64″ diameter circular, "D" or double flat hole (1/4″ across flats). Single nut furnished for mounting, no other mounting hardware needed. See Color Chart* on adjacent page.

Johnson No. 108-0900-001—Net Each.....**$0.16**

STANDARD BANANA JACKS

High quality, machined brass banana jack. Nickel-plated, furnished complete with solder terminal and nut.

Johnson No.	Dimensions, Inches				Hole Dia.	Thread	Net Each
	F	D	S	H			
108-0740-001	3/8	1/4	17/32	5/8	.166″	1/4″-28	$0.24

RIB-LOC® PRESS-IN BANANA JACKS

Johnson RIB-LOC design permits substantial production line savings as no mounting hardware to handle and assemble. Installation by pressing into proper size chassis hole. Accept .120″ tip plug in recessed contact. Silver-plated brass contact. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. **Current Rating:** 10 amps. **Peak Withstanding Voltage:** 5000. Capacity to 1/8″ panel: 1.4 pF nom. Available in six colors, see Color Chart* on adjacent page.

Johnson No. 108-1100-001—Net Each.....**$0.13**

STANDARD BANANA PLUGS

Accurately machined brass studs extend the full length of plugs providing extra strength. Nickel-silver springs are highly resistant to corrosion. Bodies and hardware .0001″ nickel-plated. All banana plugs are available with beryllium copper springs and nickel, cadmium or silver plating. Wide selection of miniature solder-type plugs is also available on special order. Quantities in special platings or plugs should be sufficiently large for economical production runs. Solder terminal and nut or screw furnished.

Johnson No.	Dimensions, Inches				Thread	Net Each
	S	P	D	H		
108-0750-001	3/8	17/32	.175	1 1/8	6-32	$0.25
108-0750-002	5/4	17/32	.175	1 1/2	6-32	.26
108-0753-001	.....	17/32	.175	1 5/16	6-32	.28

Similar to standard types listed above, except designed for riveting. Springs are beryllium copper with cadmium plating.

108-0754-001	7/32	1 3/32	.155	1 3/16	.....	$0.21

MINIATURE BANANA PLUGS

Extremely small insulated banana plugs with precision machined phosphor bronze body, nickel-plated. One-piece springs are beryllium copper, nickel-plated, .120″ dia. Polyamide sleeve. **Current Rating:** 5 amps. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 108-1000-001—Net Each.....**$0.42**

SOLDERLESS BANANA PLUGS

Compact, high voltage insulated plug for a wide variety of applications. Designed for fast, solderless connection of up to 16 gauge standard wire. Body and pin are made of one piece nickel-plated brass with high grade nickel-silver springs. Molded sleeve. **Current Rating:** 15 amps. See Color Chart* on adjacent page.

Johnson No. 108-0300-001—Net Each.....**$0.29**

DUAL BANANA PLUG

Extremely versatile plug for solderless connection. Molded body incorporates polarity indication and strain relief hole for wire leads. Nickel-plated body and high quality nickel-silver springs. Accurately machined brass studs extend full length of pins for extra strength. **Voltage Breakdown:** 10,000 VDC. **Current Rating:** 15 amps. Capacity plug to plug, 1.3 pF. See Color Chart* on adjacent page.

Johnson No. 108-0200-001—Solderless. Net Each.....**$1.15**

PATCHCORD STACKING PLUGS

Developed for custom patchboard assembly and replacement of damaged molded patchboard plugs. Assembly of patchcords with any length and color. Used with standard 0.144″ diameter rubber or extra-flexible polyvinyl insulated wire. Plug body precision machined brass with 0.0002″ nickel plating. Polyamide housing available in six colors. Operating temperature range, −55° C to +105° C.

STACKING STANDARD BANANA PLUGS

Current rating, 15 amps. Assembly tool punch and fixture is recommended. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 108-1080-001—Net Each.....**$0.46**

STACKING .080″ STANDARD TIP PLUGS

Current rating, 10 amps. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 105-1200-001—Net Each.....**$0.45**

ASSEMBLY PROCEDURE

First feed stripped wire through cross hole of metal contact, then insert contact and wire into housing. Finally place into fixture, place tip of tool into rear of contact and snap contact into place.

ENGINEERING KITS

Contain material to assemble 30 patchcords in six colors.

Johnson Standard Banana Patchcord Stacking Plug Engineering Kit No. 108-1299-001—Contains 10 each of white, red, black, green, yellow and blue standard banana plugs; one assembly tool and one assembly fixture. Net Each.....**$26.25**

Johnson No. .080″ Tip Patchcord Stacking Plug Engineering Kit No. 105-1299-001—Contains 10 each of white, red, black, green, yellow and blue color .080″ tip plugs; one assembly tool and one assembly fixture. Net Each.....**$25.50**

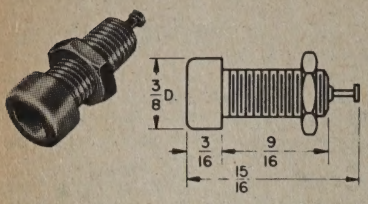
QUANTITY PRICES AVAILABLE ON REQUEST

E. F. JOHNSON COMPANY

TIP JACKS, PLUGS AND PRINTED CIRCUIT CONNECTORS

TIP JACKS

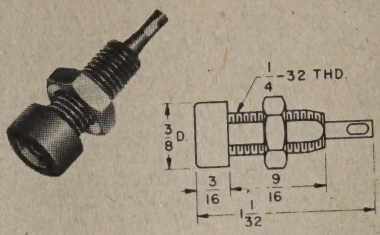
DELUXE TIP JACK



Molded body with recessed closed entry design contact. Silver-plated beryllium copper contact spring; brass solder terminal is hot tin dipped. **Current Rating:** 10 amps. **Voltage Breakdown:** 11,000 VDC. Capacity to 1/8" panel: 2 pF. 1/4"-32 nut furnished. U.S. Patent No. 2,704,357. See Color Chart*.

Johnson No. 105-0600-001—Net.... **27c**

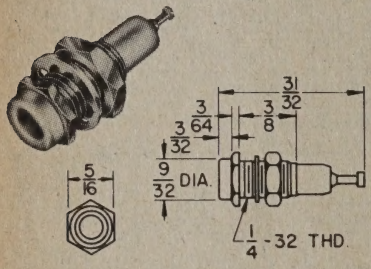
STANDARD TIP JACK



Molded body with recessed, cadmium-plated formed phosphor bronze contact. **Current Rating:** 10 amps. **Voltage Breakdown:** 9000 VDC. Capacity to 1/8" panels: 2.0 pF. 1/4"-32 nut furnished. See Color Chart* below.

Johnson No. 105-0800-001—Net.... **16c**

METAL-CLAD TIP JACKS (MILITARY)

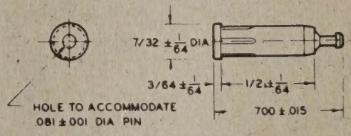


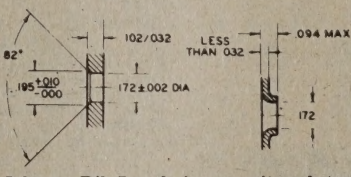
High reliability tip jack for military use or industrial applications. High quality materials withstand severe environmental temperature, vibration and salt spray conditions. Complies with MS-16108, Rev. F of MIL-STD-242A. Closed entry contact design prohibits entry of tip plug .085" or larger, preventing accidental contact damage by careless probe insertion. Heavy nickel-plated brass jacket. Gold-plated beryllium copper contact spring exceeds min. insertion/withdrawal cycle requirements of MS-16108. **Current Rating:** 5 amps. **Voltage Breakdown:** 8,000 VDC. Capacity to 1/8" panel: 3.8 pF. 1/4"-32 nut and lock washer furnished. Terminal style A, terminal style C per MS-16108 available on special order. Brass solder terminal is gold plated.

Johnson No. 105-0200-200—Net.... **56c**

MIL Number	E. F. Johnson Number	Color
MS16108-1A	**105-0201-200**	White
MS16108-2A	**105-0202-200**	Red
MS16108-3A	**105-0203-200**	Black
MS16108-4A	**105-0208-200**	Brown
MS16108-5A	**105-0204-200**	Green
MS16108-6A	**105-0206-200**	Orange
MS16108-7A	**105-0210-200**	Blue
MS16108-8A	**105-0207-200**	Yellow
MS16108-9A	**105-0213-200**	Gray
MS16108-10A	**105-0212-200**	Violet

RIB-LOC® PRESS-IN TIP JACKS



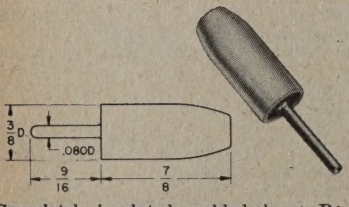


Johnson Rib-Loc design permits substantial production line savings as no mounting hardware to handle and assemble. Installation by only pressing into proper size chassis hole. Accept .080" tip plug in recessed, closed-entry type contact that rejects plugs .085" or larger to prevent accidental contact damage. Silver-plated beryllium copper contact spring. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. **Current Rating:** 10 amps. **Voltage Breakdown:** 5,000 VDC. Capacity to 1/8" panel: 1.4 pF nominal. See Color Chart* below.

Johnson No. 105-1040-001—Net.... **20c**

TIP PLUGS

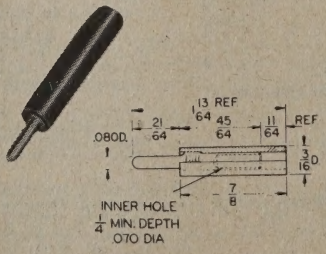
SOLDERLESS TIP PLUG



Completely insulated, molded sleeve. Recessed metal head prevents exposure of metal surfaces when engaged in any standard tip jack. All metal parts are nickel-plated brass. Designed for solderless connection of up to 16 gauge stranded wire. Fits all standard tip jacks. **Current Rating:** 10 amps. See Color Chart*.

Johnson No. 105-0300-001—Net.... **25c**

SUB-MINIATURE TIP PLUG



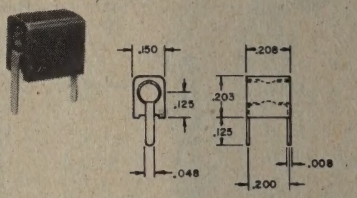
For use with miniature jack, .080" dia. tip. Nickel-plated machined brass body, solder type lead connection. See Color Chart*.

Johnson No. 105-0770-001—Net.... **25c**

PRINTED CIRCUIT CONNECTORS

Sub-miniature tip jacks are rated at 5 amps max. current capacity. Operating voltage is 1500 volts rms at sea level and 350 volts rms at 50,000 feet. Contact resistance is less than 2 milliohms; capacitance between 2 adjacent jacks is less than one pF at 1 MHz. Body is of tough, low-loss polyamide per MIL-M-20693A; able to stand hard usage. Jacks equipped with beryllium copper contacts; contacts and terminals are silver-plated.

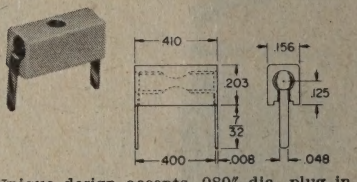
NEW HORIZONTAL JACK



New design accepts 0.080" dia. tip plug in either end. Silver-plated and iridited beryllium-copper formed contact. Two terminals. Approx. one-half size of standard jack. See Color Chart* below.

Johnson No. 105-1100-001—Net Ea.. **11c**

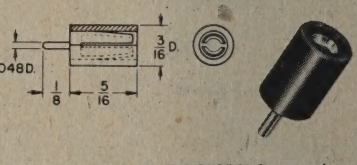
HORIZONTAL JACK



Unique design accepts .080" dia. plug in either end, or from top or bottom. Silver-plated beryllium copper formed contact. Two terminals. See Color Chart* below. U.S. Patent No. 3,208,027. Without cross hole available on special order.

Johnson No. 105-0750-001—Net Ea. **12c**

VERTICAL JACK



Mounts through single .052" hole, requires minimum mounting area. Silver-plated, machined beryllium copper contact. See Color Chart* below.

Johnson No. 105-0850-001—Net.... **18c**

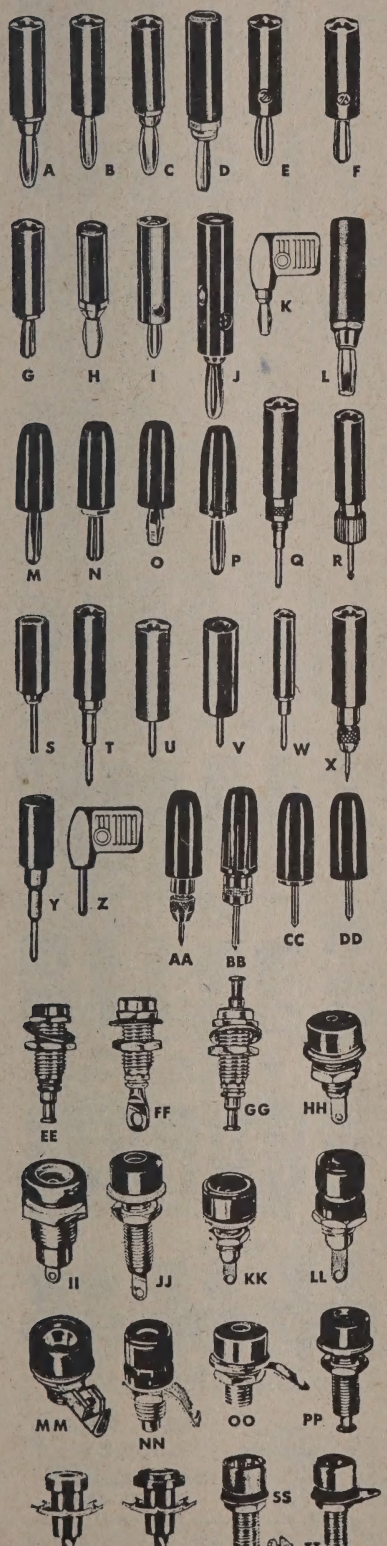
*COLOR CHART

Connectors, unless otherwise specified are available in 6 molded colors to Federal Standard 595. Other colors listed are available as specials. E. F. Johnson No. for color desired is determined by adding color numbers on chart below to **6th** and **7th** digits of E. F. Johnson No. listed for series. To order 105-1040-001 in violet color, add **12** to **6th** and **7th** digits of series number and order 105-1052-001.

Color	No.	Color	No.
White†	**01**	Yellow†	**07**
Red†	**02**	Brown	**08**
Black†	**03**	Blue†	**10**
Green†	**04**	Violet	**12**
Orange	**06**	Gray	**13**

†Indicates colors available from stock. Other colors listed are available on special order for some items.

H. H. Smith Jacks and Plugs



INSULATED BANANA PLUGS*

H. H. S. No.	Fig.	Description	Net Each
212	A	Solderless with nickel-plated phosphor bronze spring; wire may also be soldered to brass stud or directly into plug; 1″ handle	$0.35
232	A	Same as above, but with silver-plated spring	.39
242	A	Same, but with nickel-plated beryllium copper spring	.41
262	A	Same, but with silver-plated beryllium copper spring	.44
211	B	Solderless with nickel-plated phosphor bronze spring; 1″ handle	.30
261	B	Same, but with silver-plated spring	.33
271	B	Same, but with nickel-plated beryllium copper spring	.35
281	B	Same, but with silver-plated beryllium copper spring	.39
295	C	Screw-term. solderless; nickel-plated phos. bronze spring; 1″ handle	.42
296	C	Same, but with silver-plated spring	.46
297	C	Same, but with nickel-plated beryllium copper spring	.48
298	C	Same, but with silver-plated beryllium copper spring	.51
239	D	Internal spring collet solderless; phosphor bronze nickel-plated spring; 1¼″ machined butyrate handle—specify red or black	.60
236	D	Same, but cross-drilled hole in spacer for solderless connection	.62
204	E	Set-screw solderless; nickel-plated phosphor bronze spring; 1″ handle	.30
254	E	Same, but nickel-plated beryllium copper spring	.35
213	F	Split type with side screw; cross-slotted for spring tension	.28
253	G	Soldered or solderless with internal stud; cross-slotted; 1″ handle	.32
291	H	Stud-soldered midget plug with ⅝″ machined butyrate handle; 1 3/32″ plug with nickel-plated phos. bronze spring; specify red or black	.30
292	H	Same, but silver-plated spring	.33
293	H	Same, but nickel-plated beryllium copper spring	.35
294	H	Same, but silver-plated beryllium copper spring	.39
214	I	Adapts tip plug to banana plug; molded butyrate handle with jack for tip plug; nickel-plated phosphor bronze spring; red or black	.55
1511	J	Solderless banana plug; banana plugs in top and side of machined butyrate handle for unlimited, multiple circuits; phosphor bronze nickel-plated spring; specify red, black, yellow or green	.65
1512	J	Same, but beryllium copper spring	.73
255	K	Meter plug with 4-leaved nickel-plated phosphor bronze spring; specify red or black	.48
285	L	Giant type with machined phenolic plastic handle, deep solder well; 6-leaved phosphor bronze nickel-plated spring; specify red or black	1.30
476	M	Molded nylon plug; soldered or solderless; phosphor bronze nickel-plated spring; specify color†	.31
477	M	Same, but silver-plated phosphor bronze spring; specify color†	.34
478	M	Same, but nickel-plated beryllium copper spring; specify color†	.37
479	M	Same, but silver-plated beryllium copper spring; specify color†	.40
494	N	Solderless split-type plug with molded nylon handle; specify color†	.28
426	O	Midget version of No. 476; specify color†	.28
427	O	Midget version of No. 477; specify color†	.31
428	O	Midget version of No. 478; specify color†	.33
429	O	Midget version of No. 479; specify color†	.37
455	P	Solderless wrap-around version of No. 476; specify color†	.31
456	P	Solderless wrap-around version of No. 477; specify color†	.34
457	P	Solderless wrap-around version of No. 478; specify color†	.37
458	P	Solderless wrap-around version of No. 479; specify color†	.40

INSULATED TIP PLUGS*

200	Q	Solderless threaded type; 1″ handle; 2⅛″ long	$0.25
201	Q	Same, but slightly smaller; 1″ handle; 1 9/32″ long	.25
250	R	Sig. C. approved; prod tip recess holds plugs firmly; has 1″ ethyl cellulose handle; specify red or black	.66
358	R	Same, but with 3″ handle	.99
237	S	Easy-solder hollow tip; ⅝″ molded butyrate handle, red or black	.10
229	T	Heavy duty, easy solder connection; 1″ handle, 2⅛″ long	.26
203	U	Short tip plug inserts flush to handle; 1″ handle; 1½″ long	.22
283	V	Same as above, but solderless connection	.22
270	W	Subminiature tip with 1″ fiber handle; specify red or black	.30
216	X	Phono needle tip with removable chuck; 1″ handle; 1⅞″ long	.34
215	Y	Std. tip plug with jack for banana plug; ¾″ molded butyrate handle; specify red or black	.26
235	Z	Meter tip plug molded in two halves; specify red or black	.35
493	AA	Removable chuck type with molded nylon handle and phono needle; specify color†	.35
490	BB	Solderless type with molded nylon handle; specify color†	.25
492	CC	Short version of above without knurled collar; specify color†	.23
491	DD	Short tip plug; inserts flush to nylon handle; specify color†	.23

INSULATED JACKS‡

1501	EE	Nylon tip jack with metal shell; wrap-around type; specify color†	$0.36
1502	FF	Same, but spade terminal type; specify color†	.50
1503	GG	Same, but feed-thru type; specify color†	.47
1505	EE	Same as 1501 but all-nylon construction; specify color†	.27
1506	FF	Spade terminal version of 1505; specify color†	.36
1507	GG	Feed-thru version of 1505; specify color†	.34
202	HH	Molded thermosetting plastic head; phone tip; mounted in 5/16″ hole	.24
223	HH	Same, but machined butyrate; specify red, black, yellow or green	.30
240	II	Molded nylon tip jack rated 5,000 VAC, 60 Hz; specify color§	.25
206	JJ	Molded thermosetting plastic head combo jack takes standard phone or banana plugs	.32
282	KK	Molded thermosetting plastic head meter type; specify color§	.35
241	LL	Molded nylon head; insulated from panel; specify color§	.38
219	MM	Molded thermosetting plastic head banana jack; recessed body	.28
221	NN	Nylon head and washer; insulated from panel; for standard banana plugs; specify color§	.38
205	OO	Molded thermosetting plastic head banana jack	.20
256	PP	Molded thermosetting plastic head banana jack; turret terminal	.27
279	QQ	Phone tip jack with dished lockwasher "speedi-mount"; molded thermosetting plastic body; 1 3/32″ dia. head	.10
299	RR	Same as 279 except ½″ dia. head	.10
286	SS	Giant banana jack; fits ½″ hole; panel to ¾″; tinned copper lug; machined butyrate head; specify red or black	.95
287	TT	Same as 286 except brass tinned lug	.95

*Molded thermosetting plastic handle unless otherwise noted. Standard colors: red, black, yellow, green, blue or white except as otherwise noted. †For colors add suffix: **-101**, white; **-102**, red; **-103**, black; **-104**, green; **-105**, blue; **-106**, orange; **-107**, yellow; **-108**, brown; **-112**, purple; **-113**, gray. ‡Standard colors: Red, black, yellow, green, blue or white except as otherwise noted. §Specify red, black, yellow, green or blue.
***Lots of 1–499, Net; 500–999, −16⅔%.**

NON-INSULATED BANANA PLUGS AND JACKS

H. H. S. No.	Fig.	Description	Net Each*
102	A	3/8" threaded stud; hex brass body; nickel-plated phos. bronze spring	$0.34
103	B	1/2" threaded stud; hex brass body; nickel-plated phos. bronze spring	.29
100	C	Screw-on type; hex brass body; nickel-plated phos. bronze spring	.33
190	C	Same, but with beryllium copper spring	.40
104	D	1/2" threaded stud; hex brass body; split type banana plug	.22
121	E	Midget rivet type; silver-pl. brass body; phos. bronze silvered spring	.22
145	F	Soldered or solderless type with hex body; phos. bronze spring	.34
135	F	Same, but beryllium copper spring	.40
431*	G	6-32 x 3/8" stud type; hex body; phos. bronze spring nickel-plated; 1 3/16" h.	.34
432*	G	Same, but 6-32 x 1/2" stud; 1 5/16" h.	.37
433*	G	Same, but 6-32 x 3/4" stud; 1 9/16" h.	.40
434*	G	Same, but 8-32 x 3/8" stud; 1 3/16" h.	.34
435*	G	Same, but 8-32 x 1/2" stud; 1 5/16" h.	.37
436*	G	Same, but 8-32 x 3/4" stud; 1 9/16" h.	.40
401†	H	6-32 x 3/8" stud type; hex body; phos. bronze spring nickel-plated; 1 5/32" h.	.28
403*	H	Same, but 6-32 x 1/2" stud; 1 9/32" h.	.29
404*	H	Same, but 6-32 x 3/4" stud; 1 17/32" h.	.33
405*	H	Same, but 8-32 x 3/8" stud; 1 5/32" h.	.28
406*	H	Same, but 8-32 x 1/2" stud; 1 9/32" h.	.29
407*	H	Same, but 8-32 x 3/4" stud; 1 17/32" h.	.33
460‡	I	Midget 4-40 x 3/8" stud; nickel-plated phos. bronze spring; 15/16" h.	.29
461‡	I	Same, but 4-40 x 1/2" stud; 1 1/16" h.	.29
462‡	I	Same, but 6-32 x 3/8" stud; 15/16" h.	.29
463‡	I	Same, but 6-32 x 1/2" stud; 1 1/16" h.	.29
111	J	Midget cross-slotted body type; 10-32 x 2 1/64" stud; 2 3/32" h	.17
112	K	Midget banana jack accepts No. 111 plug	.12
191	L	Submin. rivet type plug; silver-plated beryl. copper spring; 37/64" h.	.21
192	M	Submin. 2-56 stud type plug similar to No. 191	.30
193	N	Submin. jack rivets direct to chassis or PC board	.15
194	O	Submin. jack rivets direct to chassis or PC (Package of 100)	.20
101	P	Hex body jack with recessed head; fits 1/4" hole; panels to 5/16" thick	.19
109	Q	Std. hex head banana jack fits 1/4" hole; panels to 3/8" thick	.19
185	R	Giant plug with deep solder well; 6-leaved phos. bronze spring	.90
186	S	Same, but screw fit instead of stud	.80
188	T	Same as No. 186 but slimmer base	.65
187	U	Giant banana jack fits 3/8" hole; panels to 1/2" thick	.60

Note: The following types are also available as specified. For silver-plated phosphor bronze spring: Add **3c** to price and *add **6** to number (431 becomes 437); †add **7** to number; ‡add **4** to number. For nickel-plated beryllium copper spring: Add **4c** to price and *add **12** to number; †add **13** to number; ‡add **3c** to price and add **8** to number. For silver-plated beryllium copper spring: Add **7c** to price and *add **18** to number; †add **19** to number; ‡add **6c** to price and add **12** to number.

NON-INSULATED TIP PLUGS AND JACKS

105	V	Solderless with knurled collar force fit; 1 23/64" h.	$0.21
106	W	Smaller version of above; 1 3/16" h.	.21
156	X	Heavy-duty force fit type; large soldering well; accepts standard banana plugs; 1 13/32" h.	.21
108	Y	Standard solder type; 1" long (Package of 100)	**
123	Y	Large I.D. solder type; 1" long (Package of 100)	††
158	Z	Drawn (all-hollow) solder type; 15/16" long (Package of 100)	‡‡
124	AA	Threaded solderless type; knurled collar; will fit plastic handle; 1 1/16" h.	.21
127	BB	Smaller version of above; 1 3/16" h.	.21
125	CC	Heavy duty threaded type; extra large solder well; 1 3/8" h.	.21
128	DD	Needle tip with removable chuck; 1 5/32" h.	.30
107	EE	Phone tip jack with hex nut; fits 1/4" hole; panels to 3/8" thick	.28
147	FF	Headless version of above used with plastic cases	.17

Net per package of 100: **$5.50; ††$6.50; ‡‡$2.00.

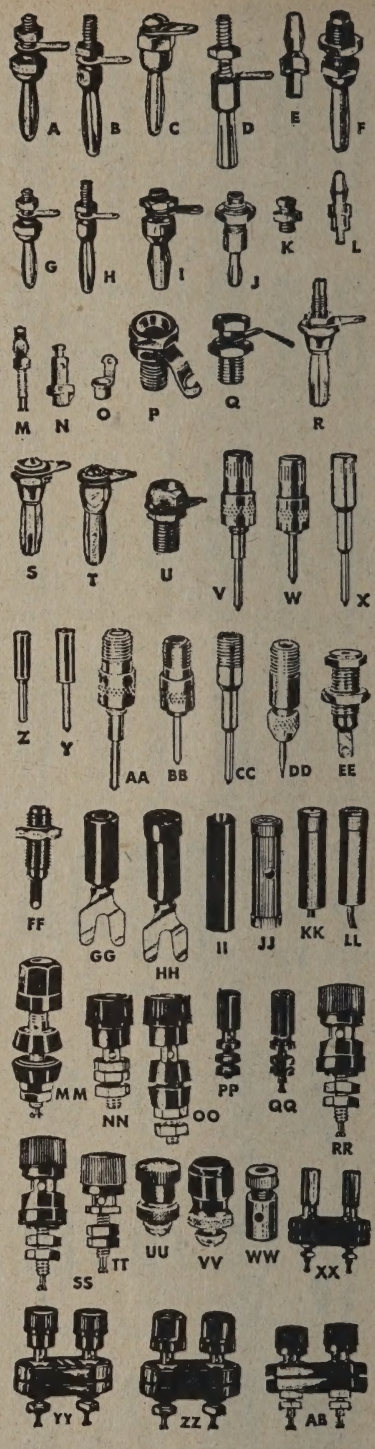
TEST LEAD ACCESSORIES

218	GG	Plastic handle spade lug; accepts banana plug; specify red or black	$0.10
249	HH	Phone tip to space lug adapter; plastic handle; specify red or black	.44
245	II	Banana plug splice of plastic; specify red, black, yellow or green	.28
246	JJ	Phone tip plug splice of plastic; specify red, black, yellow or green	.33
248	KK	Inline phone tip jack of plastic; specify red, black, yellow or green	.23
251	LL	Inline banana jack of plastic; specify red, black, yellow or green	.23

BINDING POSTS

257	MM	Multi-purpose with banana plug receptacle, wire hole, washer hole, production punch and non-removable nylon head. For 1/16"–1/4" panels. Rated 30 amps, 2000 VAC rms test. Specify red, black, yellow, blue, green, white	$0.65
220	NN	5-way grounding type, red or black plastic, captive head; 8-32 thd.	.34
230	NN	Same, but 6-32 threaded stud	.34
280	NN	Same, 8-32 thd., with nickel-plated brass insert in head	.49
264	NN	Same as No. 230 with nickel-plated brass insert in head	.49
260	OO	All insulated version of No. 220; red or black plastic, captive head	.55
259	OO	Same, but 6-32 threaded stud	.55
290	OO	Same as No. 260 with nickel-plated brass insert in head	.75
231	OO	Same as No. 259 with nickel-plated brass insert in head	.75
137	PP	Metal 5-way post has captive hex nickel-plated brass head	.50
208	QQ	Same as No. 137 but with wrap-around terminal	.65
377	RR	Molded nylon grd. type with nickel-plated brass insert; red or black	.60
378	SS	Same, but with Bakelite washer to insulate from chassis; red or black	.60
379	TT	Molded nylon grounding type; nickel-plated brass insert; red or black	.55
265	UU	Molded plastic post; brass threaded insert; specify red or black	.30
266	VV	Molded plastic post; brass threaded insert; specify red or black	.30
136	WW	Nickel-plated brass post for phone tips or banana plugs	.35
110	UU	Nickel-plated brass post with screw and lockwasher	.35
209	XX	Dual assembly; metal heads; molded black styrene insul. cross-slotted for forward or sideways phone tip insertion	1.35
224BB	YY	Dual assembly; black plastic heads; styrene washer cross-slotted	.95
224RR	YY	Same, both heads red	.95
224RB	YY	Same, one red and one black head	.95
263BB	YY	Same as 224 but with nickel-plated brass insert in head; black	1.25
263RR	YY	Same, both heads red	1.25
263RB	YY	Same, one red and one black head	1.25
269BB	ZZ	Same as No. 263, but heads are molded nylon; both heads black	1.15
269RR	ZZ	Same, both heads red	1.15
269RB	ZZ	Same, one red and one black head	1.15
284BB	AB	Same as No. 263, but heads are molded nylon; both heads black	.95
284RR	AB	Same, both heads red	.95
284RB	AB	Same, one red and one black head	.95

*Lots of 1–499, Net; 500–999, −16⅔%.



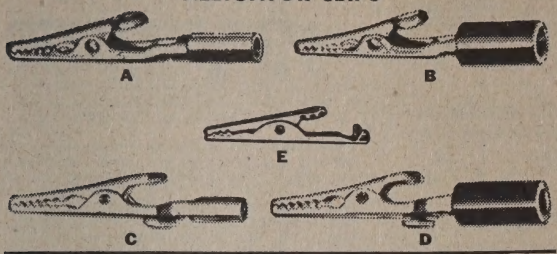
NEW, FREE CATALOG

FOR PURCHASING AGENTS AND ENGINEERS

Gives full specifications, parts data and dimensional drawings on all H. H. Smith components. Send for your copy today.

H. H. Smith Components

ALLIGATOR CLIPS

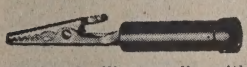


H. H. Smith No.	Fig.	Description	Net
300	A	Steel, cadmium plated	$0.07
380	A	Solid Copper	.10
301	B	Red or Black Insulated, Steel	.10
381	B	Insulated Solid Copper	.12
350	C	Steel with screw	.08
351	D	Red or Black Insulated, Steel	.11
360	C	Copper with screw	.12
361	D	Insulated Copper, Red or Black	.16
338	E	3/16" jaw, cadmium-plated steel	.06
367	E	3/16" jaw, copper	.07

ALLIGATOR CLIP COMBINATION JACKS

Insulated alligator clip with combination jack in rear of handle. Jack will accommodate standard phone tip plugs or banana plugs. Handle 1 1/8" long, overall length 2 7/8". Available in black and red colors. Specify color.

H. H. Smith No. 305—With steel clip. Net Each..... $0.47
H. H. Smith No. 335—With copper clip. Net Each..... .51



ALLIGATOR CLIP PHONE TIP JACKS

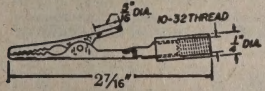
Insulated alligator clip with phone tip jack in rear of handle. The jack portion will accommodate all standard phone tip plugs. Handle 1 1/8" long, overall length 2 7/8". Available in black and red colors. Specify color.

H. H. Smith No. 304—With steel clip. Net Each..... $0.40
H. H. Smith No. 334—With copper clip. Net Each..... .44

ALL-INSULATED ALLIGATOR ADAPTER CLIPS

Phone tip jack in rear of handle. All metal parts fully insulated with molded butyrate; insures against shock, grounding. Adapts to standard phone tip plugs. Cadmium plated steel clip; brass body; phosphor bronze contact. Specify red or black color.

H. H. Smith No. 336—Rated 5 amps. Net Each..... $0.43
H. H. Smith No. 337—Same, but rated 10 amps; solder connection. Net Each..... $0.29



ALLIGATOR CLIP ADAPTER

Adapts standard solderless tips to alligator clips. Max. opening 1/2".

H. H. S. No. 310—Net.... $0.25

ALLIGATOR CLIP BOOTS

Molded vinyl plastic fully insulates clip while allowing maximum jaw opening. Specify red or black color.

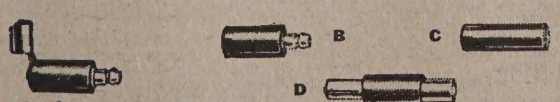
H. H. Smith No. 331—Net Each..... $0.04
H. H. Smith No. 389—Midget version for use on No. 338 or 367 clips. Net Each..... $0.03

BATTERY TEST CLIPS

Electroplated steel construction.

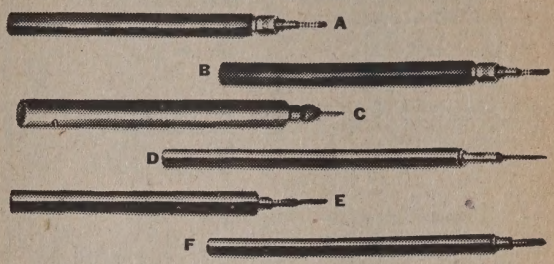
H.H.S. No.	Jaw Spread	Length	Cap., Amps	Spring, Lbs.	Net Each
365	3/8"	1 5/8"	5	7	$0.11
366	9/16"	2"	10	10	.11

AUTO RADIO IGNITION SUPPRESSORS



H. H. Smith No.	Fig.	Description	Net Each
805	A	Snap-on type	$0.55
806	B	Universal; double thread	.50
809	D	Distributor plug-in	.60
810	C	Double screw	.35

TEST PRODS



Specify red or black when ordering.

H.H.S. No.	Fig.	Description	Net Each
302	A	5 1/4" threaded solderless tip with chuck	$0.33
303	A	6 3/4" threaded solderless tip with chuck	.36
323	B	Fiber version of No. 302	.39
317	C	4 13/16" phono needle prod; thrd. chuck & collar	.36
318	C	6 5/16" version of No. 317	.42
313	D	Double Bakelite handles; phono needle tip; stud for solderless connection; 7 3/32"	.90
319	E	5 5/16" heavy duty phono tip prod; threaded	.33
329	E	6 1/16" version of No. 319	.36
322	F	For subminiature equipment; bone fiber handle; 1/4" O.D. x 4 3/4" long	.39

METER TIP TEST LEADS

Test Leads with 50" rubber covered kinkless test lead wire. Molded plastic finger-grip tips on one end and 4" plastic test prod handles on other end. Supplied in two types, solderless tip or needle tip prod handles.

H. H. Smith No.	Type	Net Price per Pair
625	Solderless prods	$1.80
626	Needle tip prods	1.80

SOLDERLESS TIP TEST LEADS

Plastic handles colored red and black, 4" long x 3/8" diameter. Flexible rubber covered wire leads 50" long also colored red and black.

H. H. Smith No.	Type	Net Price per Pair
600	Phone tips	$1.25
601	Spade lugs	1.25
602	Alligator clips	1.30

PHONO NEEDLE TEST LEADS

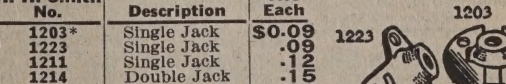
613	Phone tips	$1.25
614	Spade lugs	1.25
615	Alligator clips	1.30

PHONO PLUGS

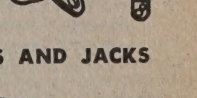
RCA Type phono plugs. For use with record players, recording and reproducing equipment, etc. Extra large hole in cap (.175") for coaxial cable.

H. H. S. No. 1201—Long Pin (1" overall). Net.. $0.08
H. H. S. No. 1202—Short Pin (13/16" overall). Net .08

PHONO JACKS

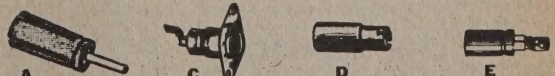


H. H. Smith No.	Description	Net Each
1203*	Single Jack	$0.09
1223	Single Jack	.09
1211	Single Jack	.12
1214	Double Jack	.15
1212	Triple Jack	.20



*On 1/16" Bakelite®, 1 1/16" centers.
®Registered Bakelite Corp. trademark.

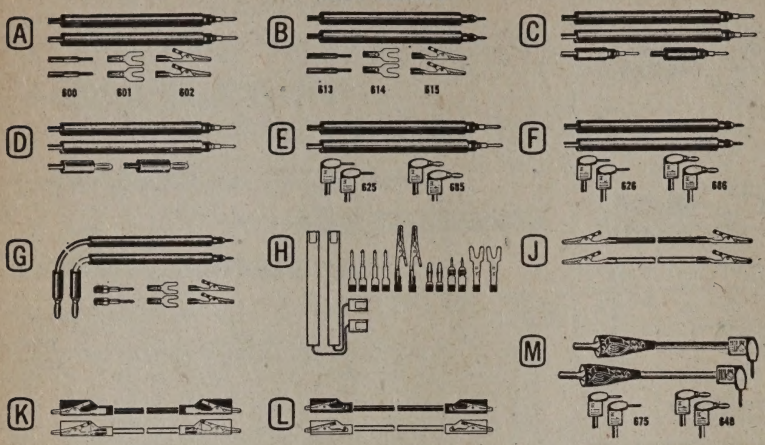
MOTOROLA PHONO PLUGS AND JACKS



H. H. Smith No.	Fig.	Description	Net Each
1200	A	Motorola type plug	$0.12
1207	C	Motorola jack	.20
1204	D	Lead-in adapter	.09
1235	E	Jack without flange	.10

H. H. Smith Test Leads & Prods

TEST LEADS



SOLDERLESS TIP TEST LEADS (FIG. A)

Molded butyrate handles per Fed. Spec. L-P349A, Type 3, Class MS; red and black. Solderless tip of nickel-plated brass. 4″ long x ⅜″ diameter. Flexible rubber covered wire leads 50″ long, also colored red and black.

H.H.S. No.	Meter End	Net Price per Pair
600	Phone tips	$1.25
601	Spade lugs	1.25
602	Alligator clips	1.30

PHONO NEEDLE TEST LEADS (FIG. B)

Molded butyrate handles per Fed. Spec. L-P349A, Type 3, Class MS; red and black. Nickel-plated brass body. Nickel-plated steel needle tips. Flexible rubber covered wire leads 50″ long, red and black.

H.H.S. No.	Meter End	Net Price per Pair
613	Phone tips	$1.25
614	Spade lugs	1.25
615	Alligator clips	1.30

ALL SOLDERLESS TEST LEADS (FIG. C)

Molded butyrate handles per Fed. Spec. L-P349A, Type 3, Class MS; red and black. Molded thermosetting plastic plug in red and black, per MIL-M-14 CFG. Solderless tip of nickel-plated brass.
H. H. Smith No. 603—Net/Pair...**$1.60**

BANANA PLUG TEST LEADS (FIG. D)

Molded butyrate handles per Fed. Spec. L-P349A, Type 3, Class MS; red and black. Plug is molded phenolic; red and black. Solderless tip plug of nickel-plated brass. Nickel-plated brass body. Nickel-plated, four-leaved phosphor bronze spring.
H. H. Smith No. 623—Net/Pair...**$1.80**

SOLDERLESS PROD METER TEST LEADS (FIG. E)

Molded butyrate handles per Fed. Spec. L-P349A, Type 3, Class MS; red and black. Solderless tip of nickel-plated brass. Elbow of molded thermosetting plastic, per MIL-M-14 CFG; red and black. Nickel-plated brass body. Nickel-plated, four-leaved phosphor bronze spring. 50″ rubber covered kinkless test lead wire.

H.H.S. No.	Meter End	Net Price per Pair
625	Phone tips	$1.80
685	Banana plugs	2.05

NEEDLE PROD METER TEST LEADS (FIG. F)

Molded butyrate handles per Fed. Spec. L-P349A, Type 3, Class MS; red and black. Nickel-plated steel needle prod. Elbow of molded phenolic plastic, in red and black. Nickel-plated brass body. Nickel-plated, four-leaved phosphor bronze spring. Rubber covered 50″ kinkless test lead wire.

H.H.S. No.	Meter End	Net Price per Pair
626	Phone tips	$1.80
686	Banana plugs	2.05

TEST LEAD KIT (FIG. G)

Includes one pair of test leads in red and black, with test prods on one end and banana plugs on the other; plus two phone tips, two alligator clips and two spade lugs.

H.H.S. No.	Prod Type	Net Each
610	Solderless	$2.50
611	Needle tip	2.50

UNIVERSAL TEST LEADS (FIG. H)

Fifty leads in one—completely interchangeable. One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Includes 5 kV rubber covered wire, 26 strands #34 copper, #20 AWG, insulated to .125″ O.D. With plastic kit.
H. H. Smith No. 699—Net Each..**$5.00**

MINIATURE UNIVERSAL TEST LEADS (FIG. H)

With miniature tips, clips, banana plugs and spade tips. One lead set makes any required test lead combination. All parts adapt into prod handle or meter tip. Includes 5 kV rubber covered wire, 26 strands #34 copper, #20 AWG, insulated to .125″ O.D. With plastic kit.
H. H. Smith No. 679—Net Each..**$5.00**

ALLIGATOR CLIP TEST LEADS (FIG. J)

Cadmium-plated steel clips.

H.H.S. No.	Wire Length	Net Price per Pair
604	12 inches	$1.00
605	24 inches	1.05
606	36 inches	1.10
607	48 inches	1.15

ALLIGATOR CLIP TEST LEADS WITH BOOTS (FIG. K)

Cadmium-plated steel clips. Vinyl plastic boots in red and black.

H.H.S. No.	Wire Length	Net Price per Pair
629	12 inches	$1.10
657	24 inches	1.15
658	36 inches	1.20
659	48 inches	1.25

MIDGET ALLIGATOR CLIP TEST LEADS (FIG. L)

Cadmium-plated steel clips. Vinyl plastic boots in red and black.

716	12 inches	$1.10
717	24 inches	1.15
718	36 inches	1.20
719	48 inches	1.25

CROCODILE CLIP TEST LEADS (FIG. M)

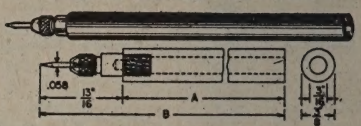
Cadmium-plated steel clips. Vinyl plastic boots in red and black. Molded phenolic plastic elbows in red and black. Nickel-plated brass tips. Nickel-plated, four-leaved phosphor bronze spring.
H. H. Smith No. 648—Net/Pair...**$1.60**

CROCODILE CLIP TEST LEADS (FIG. M)

Cadmium-plated steel clips. Vinyl plastic boots in red and black. Molded phenolic plastic elbows in red and black. Nickel-plated brass tips. Nickel-plated, four-leaved phosphor bronze spring.
H. H. Smith No. 675—Net/Pair...**$1.50**

TEST PRODS

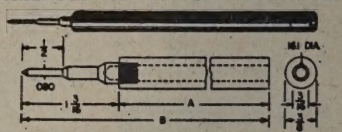
PHONO NEEDLE TEST PROD



Removable chuck for easy replacement of broken needles. Needle pierces corrosion or plating for positive meter readings. Rated 12 amps AC for 10° C temperature rise, continuous duty. Handle is molded butyrate per Fed. Spec. L-P349A, Type 3, Class MS; specify color, red or black. Plug is nickel-plated brass.

H.H.S. No.	Handle (A)	Overall (B)	Net per C
317	4″	4 1⅜₁₆″	$36.00
318	5½″	6⅝₁₆″	42.00

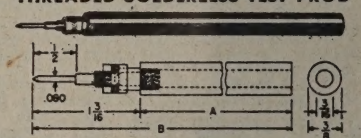
THREADED HEAVY DUTY TEST PROD



Large diameter well permits soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. Rated 12 amps AC for 10° C temperature rise, continuous duty. Molded butyrate handle per Fed. Spec. L-P349A, Type 3, Class MS. Specify color, red, black. Nickel-plated brass plug.

319	4″	5⅜₁₆″	$33.00
329	5½″	6 1⅛₁₆″	36.00

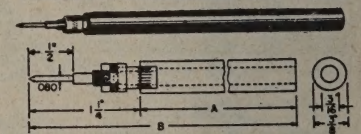
THREADED SOLDERLESS TEST PROD



Solderless type; wire fits through handle and body of plug, then is wrapped around screw portion and tightened with knurled collar. Rated 12 amps AC for 10° C temperature rise, continuous duty. Molded butyrate handle per Fed. Spec. L-P349A, Type 3, Class MS. Specify handle color: red or black. Nickel-plated brass plug.

302	4″	5¼″	$33.00
303	5½″	6¾″	36.00

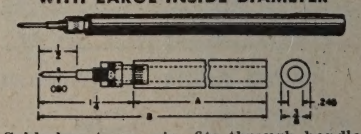
FORCE FIT SOLDERLESS TEST PROD



Solderless type; wire fits through handle and body of plug, then is wrapped around screw portion and tightened with knurled collar. Rated 12 amps AC for 10° C temp. rise, continuous duty. Molded butyrate handle per Fed. Spec. L-P349A, Type 3, Class MS. Specify handle color: red or black. Nickel-plated brass plug.

382	4″	5¼″	$33.00
383	5½″	6¾″	36.00

FORCE FIT SOLDERLESS TEST PROD WITH LARGE INSIDE DIAMETER



Solderless type; wire fits through handle and body of plug, then is wrapped around screw portion and tightened with knurled collar. Extra large inside diameter for heavy duty wire. Rated 12 amps AC for 10° C temp. rise, continuous duty. Handle is molded butyrate per Fed. Spec. L-P349A, Type 3, Class MS. Specify handle color: red or black. Nickel-plated brass plug.

352	4″	5¼″	$33.00
353	5½″	6¾″	36.00

BINDING POSTS AND PLUGS

Positive connection designs available in several styles to meet every binding post requirement. Designed to handle up to 30 amps. Insulating washers are non-turn "D" style. Integral solder stud plus two hex nuts for solder lug connection. Captive heads. Cross hole flush with stud extension to eliminate cutting fine wires. Fit panels up to 3/16" thick. All metal parts are nickel-plated brass. Caps available in colors as listed; specify by adding appropriate suffix. Non-standard colors and non-captive heads also available.

SERIES 29-100 PUSH POSTS™ (FIGS. A AND C)

Plunger type binding post for positive connection. Available in several styles. To operate, button is depressed, lead is placed in slot and button is released. Spring pressure assures firm contact. Extends only 7/8" above mounting board. Nickel-plated brass construction with thermoplastic button caps. Gold finished available on special order. Caps are red or black, other colors available on special order. **Type 29-100 (Fig. A):** Stud threaded 8-32 UNC-2A. Fits 1 1/4" mounting hole. Comes complete with cap. **Type 29-110:** Same, but without cap. **Type 29-125:** Same, but without cap. Has stainless steel spring for high temperatures to 600° F. For insulating washer use No. 21B1002-6. **Type 29-104 (Fig. C):** Wide base, stud type post, with molded insulating washers.

SERIES 29-1 SCREW TYPE BINDING POST (FIG. D)

For minimum mounting space. Red and black molded parts are phenolic to MIL-M-14. Nickel-plated brass metal parts. Mounts in 3/8" hole. Non-turn "D" washers; flush cross hole; integral center stud. Designed to permit close spacing of posts. Stud threaded 10-32 UNF-2A. Size, .50" O.D. x 1.02" above panel when open; 1.70" lg. overall when open. Insulation resistance, 120,000 megs. Voltage bkdwn, 1500 VAC between studs and mtg. panel.

SERIES 29-3 STANDARD (FIG. E)

Similar to series 29-1, but larger. For use in existing equipment or where wider spacing is desirable. Fits 1/2" dia. hole. Insulation resistance, 200,000 megohms. Breakdown, 3000 VAC between studs and mounting panel. Stud threaded 10-32 UNF-2A. Size, .625" O.D. x 1.02" above panel when open; 1.70" lg. overall when open.

No.	Description and Suffix	Net Each, Lots of 1-99	100-999	1000-1999	2000-2999
29-1	**B**, black; **R**, red	$0.70	$0.52	$0.49	$0.45
29-3	**R**, red; **B**, black	.70	.52	.49	.45
29-100	**R**, red; **B**, black	.60	.45	.42	.39
29-104	**R**, red; **B**, black	.85	.64	.59	.55

TEST JACKS AND SLEEVES

SERIES 31 TEST JACKS (FIG. F)

For use on printed circuits as test points to feed AF, RF and pulse signals, check and feed DC voltages, monitor signals during test, alignment, etc. For standard 0.080" to 0.081" phone tip plugs. Rivets to board like an eyelet. Rivet dia., 0.12". Jack is 1/4" high.

SERIES 31B PLASTIC SLEEVES (FIG. G)

Snap-on plastic insulators lock in place over Series 31 Test Jacks. Eight colors for coding. Once snapped over retainer ring, sleeves lock and cannot be removed. 0.240" dia. x 0.290" high.

No.	Description	Net Each, Lots of 1-499	500-999
31-1	For 1/16" board	$0.30	$0.24
31-2	For 3/32" board	.30	.24
31-3	For 1/8" board	.30	.24
31B-*	Insulating sleeve	.15	.12

*To order black add suffix **1**; red, **2**; green, **3**; gray, **4**; brown, **5**; blue, **6**; yellow, **7**; white, **8**.

TYPE 16 INSULATED TEST CLIP (FIG. K)

Fully insulated to permit two or more to be laid side by side without shorting. Molded phenolic parts meet MIL-M-14. Silver overlay contacts, .0015-ohm resis. Size, 2" lg. x .80" grip-to-grip.

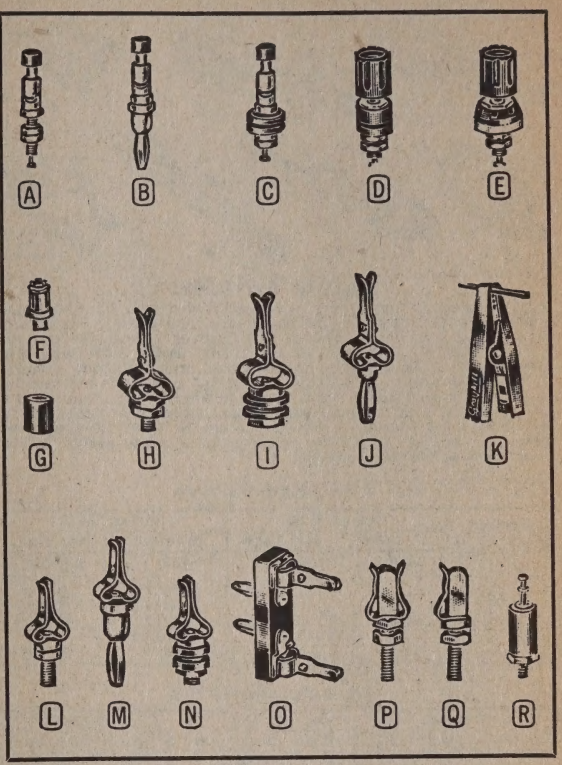
No. 16-B (Black) or **16-R** (Red)—Net Each..... **$1.65**

SERIES 18 STAND-OFF INSULATORS

Bodies molded of low-loss mica-filled phenolic. Silver-plated brass solder terminals. Length above panel, .93"; diameter, .31". Type 18-2 (Fig. R) has #4-40 threaded bushing .22" long; 18-1 similar but female type with #4-40 thread.

No. 18-1—Net Each, Lots of 1-499.. **$0.65**; 500-999... **$0.52**

No. 18-2—Net Each, Lots of 1-499.. **.70**; 500-999... **.56**



PANEL MOUNT TEST CLIPS

Hex nut under clip allows for tension adjustment. Nickel-plated brass; threaded studs which are nickel-plated steel.

No. 2-0 Threaded Stud, Uninsulated Clip (Fig. H)—Threaded stud 8-32 UNC-2 for panels .025" thick; 1.25" above panel.

No. 2-60 Miniature Test Clip—Similar to No. 2-0, but studless. Hole in base tapped to receive 8-32 UNC-2A threaded bolt.

No. 2-4 Threaded Stud, Insulated Clip (Fig. I)—Two molded phenolic washers; for panels to .187" thick; 1.31" above panel.

No. 2-20 Miniature Test Clip (Fig. L)—Miniature; threaded 6-32 UNC-2A stud for panels to .25" thick; .72" above panel.

No. 2-24 Insulated Miniature Clip (Fig. N)—Same as No. 2-20, but has molded phenolic washers for insulation; .78" above panel.

No. 2-41 Ultra-Miniature Test Clip (Fig. Q)—Only 3/16" x 1/8" panel area required, exclusive of nut. Nickel-plated brass with nickel-plated, heat-treated beryllium copper spring. Only 0.41" above panel. Stud thread 2-56 UNC-2A.

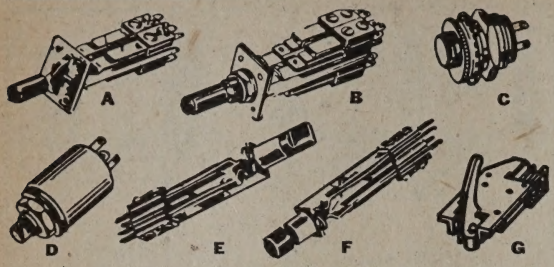
No. 2-42 Ultra-Miniature Double Test Clip (Fig. P)—Same as 2-41, but double clipping action. Takes 1/4" x 1/8" panel area, excluding nut. Stud threaded 2-56 UNC-2A. Only 0.41" above panel.

No.	Description	Net Each, Lots of 1-1999	2000-4999	5000-9999	10,000 Up
2-0	Uninsul. stud clip	$0.40	$0.34	$0.30	$0.27
2-4	Insul. stud clip	.60	.51	.45	.40
2-20	Min. stud clip	.40	.34	.30	.27
2-21	Min. banana clip	.65	.55	.49	.43
2-41	Single, ultra-min.	.40	.34	.30	.27
2-42	Double, ultra-min.	.45	.38	.34	.30

SERIES 22-16 TRANSISTOR SOCKETS (FIG. B)

These sockets are designed for the JETEC series transistors, and the tops have indicators for fast alignment of the transistor tab. Terminals are numbered on the bottom of the socket. They can be soldered directly into a printed board or can be mounted in a "D" shaped hole and held by a clip washer. Contacts are wrap-around type, silver-plated beryllium copper with gold plate. Sockets are molded of mica-filled phenolic per MIL-M-14, Type MFE.

No.	Number of Terminals	Net Each, Lots of 1-499	500-999
22-16-2	3	$0.50	$0.40
22-16-3	3	.50	.40
22-16-4	4	.55	.44



"TELEVER SWITCHES"

Rugged telephone type lever switches. Welded cross bar palladium contacts rated at 3 amps, 300 watts max. non-inductive AC load. Nylon rollers on lever actuate nickel silver springs for smooth action; integral tinned solder lug term. **Series 6000 (Fig. A):** Has insulated black knob; chrome plated brass actuator; mounts by four 3-48 screws (not supplied) on 17/16" x 13/16" centers; can be assembled to escutcheon plate. **Series 16000 (Fig. B):** Same design as Series 6000, but features single hole mounting in panels up to ¼" thick using standard 15/16"-32 thread. Non-locking type converts to "locking" by removing "stop plate". **Add suffix "L" to part number for locking type.**

TWO-POSITION TYPE

Contact Assembly	Series 6000		Series 16000	
	Number	Net Each	Number	Net Each
2 "B"	6006	$4.41	16006	$4.59
2 "C"	.....	.....	.....	.....
4 "A"	.....	.....	16008	5.16
3 "B"	.....	.....	16009	5.52
4 "B"	60012	5.88	160012	6.27
4 "C"	.....	.....	160012D	.....
8 "B"	60024	.....	160024	9.18

THREE-POSITION TYPE

Contact Assembly		Series 6000		Series 16000	
Position 1	Position 2	Number	Net Each	Number	Net Each
1 "B"	1 "B"	6036	$4.41	16036	$4.59
1 "C"	1 "C"	.....	.....	.....	.....
2 "A"	2 "A"	.....	.....	16038	5.16
2 "B"	2 "B"	60312	.....	160312	6.27
2 "C"	2 "C"	60312D	.....	160312D	6.90
4 "A"	4 "A"	60316	.....	160316	8.10
4 "B"	4 "B"	60324	8.97	160324	9.18

Switchcraft No. 530—Escutcheon plate with 4 mounting screws for Series 6000 switches only. Net Each..... **$0.69**

"BUTTON SWITCHES"

Unusually small, completely enclosed switch. Rated 250 mils, non-inductive load; 30 watts AC max. **Series 903 and 913 (Fig. C)**—Single-hole, behind panel mounting for panels up to 19/64" thick; hole, 15/64" dia. **Series 923 and 933 (Fig. D)**—Mount on front of panel, using ¼" dia. hole; for panels up to 5/64" thick. **"CORD SWITCHES"***—Button switch assembled into nickel plated brass handle provides ideal switch for attachment to cable.

Contact Assembly	Switchcraft Number		Net Each
	Red Button	Black Button	
B	903	913	$1.14
C	903D	913D	1.14
B	923	933	1.20
C	923D	933D	1.20
B	E-903*	E-913*	1.80

"T-SWITCHES"

Long frame switch. Welded cross-bar palladium contacts rated 3 amps.; 300 watts max. AC non-inductive load. **Pushbutton Series 11000 (Fig. F)**—Mounts in ½" dia. hole with 5/8" center distance to pushbutton; requires 2 1/16" depth behind panel. Available in momentary action or locking type. **Turnbutton Series 11200 (Fig. E)**—Two position type available in locking or non-locking actions. **For locking type add suffix "L" to part number.**

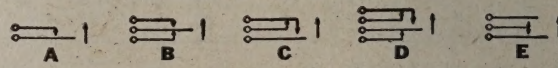
Contact Assembly	Pushbutton Series 11000		Turnbutton Series 11200	
	Number	Net Each	Number	Net Each
1 "B"	11003	$3.54	11203	$3.72
2 "C"	11006	3.48	11206	4.59
2 "B"	11006D	3.48	11206D	3.48
4 "C"	11012	6.00	11212	6.27

"HOOK SWITCH" (FIG. G)

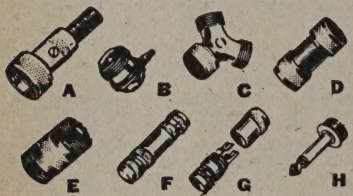
Silver contacts rated at 3 amps at 120 VAC. Palladium contacts and special circuits available. (Refer to basic contact forms. Specify by lettering.)

No. 14006 (Circuit 1)—Net Each.... **$3.03** 1

BASIC CONTACT FORMS



MICROPHONE CONNECTORS



Standard size mike connectors designed for use with single conductor cable. Panel receptacle mounts in .385" hole.

No.	Description	Net
2501F	Female, 1-contact, coupling ring. (**Fig. A**)	$0.66
2501M	Male, 1-contact. (Not Illus.)	.54
2501MP	Male panel conn. (**Fig. B**).	.48
2501MPC	Closed circuit male panel connector (Not Illus.)	.63
44	Plug adapter (**Fig. H**)	.48
25Y	2 male to 1 female (**Fig. C**)	1.38
2501FT	Dbl. female connects 2 cables to male (**Fig. D**)	1.32
2501MT	Dbl. male connects 2 cables to female. (**Fig. E**)	.....
2501FL	Female 2-screw term. straight conn.; cable clamp built-in; 2-piece handle. (**Fig. F**)	.....
2501FS	As above without cable clamp (**Fig. G**)	.....

"MINI-CON" CONNECTORS

Miniature mike connectors. Approx. half the size of Standard Series 2501. Takes cable up to 3/16" dia.; panel receptacle. No. 5501MP, mounts in 3/8" dia. hole, in panels up to ¼" thick; 5501MF mounts in 3/8" dia. hole with locknut on front of panel.

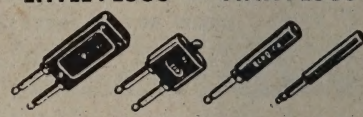
No.	Description	Net
5501F	Female, 1-contact, coupling ring	60c
5501M	Male, 1-contact	51c
5501MF	Male, panel conn., mounts front side panel	48c
5501MP	Male, panel conn., mounts back side	48c

JACK PANELS

Black phenolic strip, reinforced with steel, supports Switchcraft "T-JAX" and "MT-JAX". Slotted mounting brackets for standard 19" relay racks.

No.	Description	Net
1200	Single row, less jacks	$10.08
1232A	Single row, 12 pr. closed ckt. T-332A "T-Jax"	30.60
1332A	Single row, 12 pr. closed ckt. MT-332A "MT-Jax"	34.20
2400	Double row, less jacks. 2 1/8" w. (holds 48 jacks)	10.44
2432A	Double row, 24 pr. closed ckt. T-332A "T-Jax". 2 1/8" w.	53.40
2532A	Double row, 24 pr. closed ckt. MT-332A "MT-Jax" 2 1/8" w.	63.00
2600	Double row, less jacks. 1¾" w. (holds 52 jacks)	12.60
2632A	Double row with 52 No. T-332A "T-Jax". 1¾" w.	60.00
2732A	Double row with 52 No. MT-332A "MT-Jax". 1¾" w.	69.60

"LITTEL PLUGS"—"TWIN PLUGS"



"Littel Plugs"—One-piece tip rod and one-piece sleeve and plug body, assembled together into a mold as inserts. Insulated. Internal interlock to prevent parts shifting in position. **"Twin-Plugs"**—Two electrically independent two-conductor plugs, 5/8" centers, placed into handles to provide a double or "Twin-Plug". Self-aligning. Made in same exacting manner as "Littel Plugs" above. Design and material to NME spec. MIL-P-642(A).

"LITTEL PLUGS"—MILITARY TYPE

No.	Description	Net
420*	2-cond. black handle. Type PJ-047B (sim. WE 347B)	$1.32
425*	2-cond. red handle. Type PJ-047R (sim. WE 347A)	1.32
482*	3-cond red handle. Type PJ-051 (sim. WE 310)	3.03

*Screw terminals.

"TWIN PLUGS"—MILITARY TYPE

411	Black handle. Type PJ-327. Provision for internal cord clamp (not included)	$3.84
412	Black handle. (Old MIL PJ-289) Similar to WE-289B. External cord anchor	3.57
S-2674†	Strain relief clamp, brass, for 411	....

†For package of 10.

SEE CATALOG INDEX FOR OTHER SWITCHCRAFT PRODUCTS ALSO AVAILABLE.
WRITE FOR INFORMATION ON NEW OR UNLISTED ITEMS.

PHONE JAX

"Littel-Jax" (Fig. A)—Notched washers hold springs and lugs; "V" bend in tip spring holds mating plug; minimum space requirements. ⅜" hole, panels to ½" (L-11, L-12A, to ¼").

"SF-JAX" (Fig. B)—Short frame type, requires minimum panel depth. Series 20 mount in ⅜" hole, panels to 1/16" thick. Series 50 mount in ⅜" hole, panels to ¼" thick, solder-lugs.

"LF-JAX" (Fig. C)—Long frame type. 3" deep, ⅜" hole in panels up to ¼" thick.

"LITTEL-JAX"		"SF-JAX"		"LF-JAX"		Schematic
No.	Net	No.	Net	No.	Net	
11	42c	21	$0.72			
C-11	....	51	.72			
L-11	48c	C-51	....			
S-11	45c			31	$0.72	A
		22	.87			
		52	....	32	.96	B
12A	45c	22A	.87			
C-12A	72c	52A	....			
L-12A	51c	C-52A	....	32A	.96	C
12B	51c	22B	.87			
C-12B	72c	52B	.87			
S-12B	69c	C-52B	1.38	32B	.96	D
13	87c	23	1.05			
		C-23	....			
		53	....	33	1.05	F
13A	78c	23A	1.05			
		C-23A	....			
		53A	....			
		C-53A	1.05	33A	1.05	R
13B	75c	23B	1.05			
S-13B	96c	53B	1.05	33B	1.05	G
		23C	....			
		53C	....	33C	1.05	E
13E	87c	23E	1.05			
		C-23E	....			
		53E	....	33E	1.05	H
		24	1.08			
		54	1.14	34	1.14	T
		24A	1.14			
		54A	1.14			
		C-54A	....	34A	....	I
14B	99c	24B	1.14			
		54B	1.14			
		C-54B	....	34B	1.14	J
		25	1.38			
		55	1.38	35	1.38	N
		C-55B	1.92			U
		26	....			
		56	1.44	36	1.56	O

Note: Prefix "C" indicates Military type MIL-J-641.

"EXTENSION JAX" (FIG. F)

Clamp-type terminal provides cable anchor. Spring tempered nickel silver springs. Terminals mechanically interlock. Plastic or nickel plated brass handles.

No.	Handle	Description and Type Terminal	Net Each
80	Black	2-cond., screw	$1.08
88	Black	2-cond., lug	.99
120	Shielded	2-cond., screw	1.44
128	Shielded	2-cond., lug	1.32
830	Black	3-cond., screw	1.44
838	Black	3-cond., lug	1.32
1230	Shielded	3-cond., screw	1.86
1238	Shielded	3-cond., lug	1.71
S-128*	Shielded	2-cond., lug	1.41
126†	Shielded	2-cond., lug	1.59

*.210" sleeve I.D. to mate with S-250 plug. †Used with short sleeve R-280 plug.

"LUG PLUG" (FIG. G)

Similar to the "Littel-Plug" Series 200 except two small solder lugs. 1" long handle.

No.	Handle	Description	Net
350	Black	2-conductor	60c
355	Red	2-conductor	60c
380	Metal	2-conductor	75c

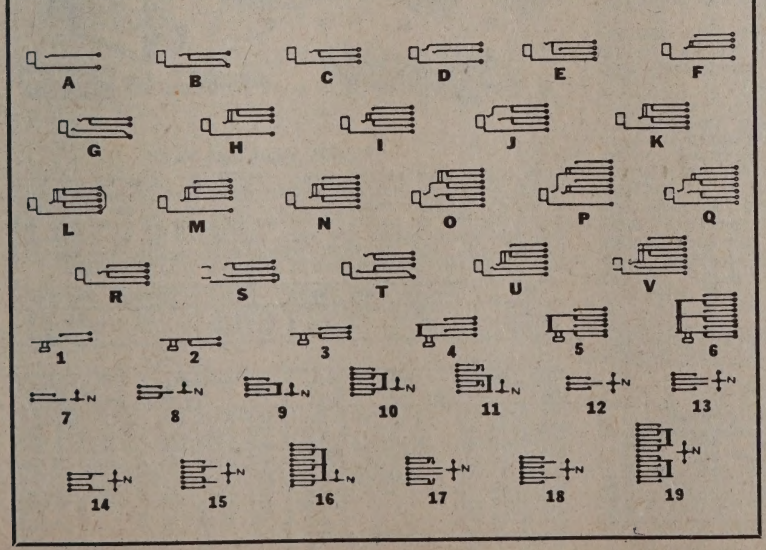
"SHIELDED JAX" (FIG. H)

No.	Circuit, See Littel-Jax No.	Net
CN-11	11	81c
CN-12A	12A	84c
CN-12B	12B	96c

"FLAT PLUG" (FIG. J)

Removable plastic cap; terminals and body mechanically interlocked. One piece tip rod.

No.	Handle	Description	Net
220	Black	2-cond., screw term.	$1.05
225	Red	2-cond., screw term.	1.05
227	Black	2-cond., lug terminal	.84
229	Red	2-cond., lug terminal	.84
230	Black	3-cond., screw term.	1.29
235	Red	3-cond., screw term.	1.29
237	Black	3-cond., lug terminal	1.26
239	Red	3-cond., lug terminal	1.26



"LEV-R-SWITCHES" (FIG. I)

Series 3000—Unusually small, with 13/64" thick bushing; overall length, 3 17/64". Mounts in ½" dia. hole in panels up to 1/16" thick.

Series 13000—⅜" bushing; overall length, 3 11/64". Mounts in ½" dia. hole in panels up to ¼" thick. Both have fine silver contacts rated 3 amps, 300 watts max., AC non-inductive load. Black plastic knobs.

Two Position Type

No.*	Net	No.*	Net	Schem.
3001	$1.89	13001	$2.07	7†
3003	2.28	13003	2.37	8
3004	2.46	13004	2.61	9†
3006	....	13006	2.88	10
3006D	....	13006D	....	11
3009	3.51	13009	3.78	16

Three Position Type

3033	$2.46	13033	$2.64	12†
3034	2.55	13034	2.70	13†
3036	2.88	13036	3.15	15
3036D	....	13036D	3.36	17
3037	2.94	13037	3.15	18†
30312	3.87	130312	3.81	19
30313	3.87	130313	3.81	19†

Inter-Com Type

3033T	$2.64	13033T	$2.64	12†
3037T	3.15	13037T	3.15	18†

*Add **L** for Locking types; same price. †Normally open.

Series 12000—Requires 7/16" depth behind panel. Single hole mounting. Springs insulated. Fine silver contacts rated 3 amps, 300 watts max., AC, non-inductive load, standard.

Two Position Type

Series 12000		Net Each	Schematic
Locking	Non-Locking		
12003L	12003	$1.92	8
12006L	12006	2.40	10
12006DL	12006D	2.01	11

Three Position Type

12033L	12033	$2.16	12*
12034L	12034	2.28	13*
12035L	12035	1.71	14†
12036L	12036	2.55	15
12036DL	12036D	2.07	17
12037L	12037	2.64	18

Three Position Locking One Side—Non-Locking Other Side

12033T	.....	$2.16	12*
12037T	.....	2.64	18

*NO. †NC.

PUSHBUTTON & ROTARY SWITCHES

"Littel-Switch" (Fig. D)—Non-locking only. Red button listed, for **Black**, change Nos. to 201, 202 or 203. Low amp.

"Tiny-Switch"—Similar in construction but about ⅓ the size of "Littel-Switch". Integral contacts only. Mounts ¼" dia. hole in panels up to 1/16" thick.

"FF-S" (Fig. E)—Series 1000. Non-locking, black pushbutton only. 3 amps, 300 watts max., AC, non-inductive load, silver contacts. **"NF-Switch" (Fig. E)**—Series 4000. Smaller version of "FF"; same rating.

"LITTEL-SWITCH"		"FF" AND "NF" SWITCHES		Schematic
No.	Net	No.	Net	
101	$0.75	1001	$1.08	1†
101S*	1.08	4001	1.08	
102	.75	.....	.....	2‡
102S*	1.08	.....	.....	
103	.93	1003	1.17	3
103S*	1.23	4003	1.17	
		1004	1.26	4‡
		4004	1.26	
		1006	1.50	5
		4006	1.50	
		1009	2.16	6
		4009	2.13	

*Fine silver contacts instead of nickel silver. Rated 3 amps, 300 watts AC, non-inductive load. †NO. ‡NC.

"TINY SWITCHES"

Red Button	Black Button	Net Each	Schematic
951	961	75c	1*
952	962	75c	2†
953	963	93c	3

*NO. †NC.

"PHONE PLUGS" (FIG. A)

Conventional design standard plugs with phenolic or metal handles. O.D. 11/16".

Two-Conductor

No.	Handle*	Description	Net
40	2 1/16"; Black	Screw Terminal	$0.75
45	2 1/16"; Red	Screw Terminal	.75
70	2 1/16"; Metal	Screw Terminal	1.23
160	1"; Metal	Screw Terminal	.99
170	2 1/16"; Metal #	Screw Terminal	1.56

*Length and material. #2-piece handle with built-in cable clamp (1/4" cable).

Three-Conductor

No.	Handle*	Description	Net
60	2 1/16"; Black	Solder Lug	$1.02
90	1"; Metal	Solder Lug	1.29
190	2 1/16"; Metal	Solder Lug	1.50
190A	2 1/16"; Metal #	Solder Lug	1.86

*Length and material. #2-piece handle with built-in cable clamp (1/4" cable).

"LITTEL-PLUGS" (FIG. B)

Phone plugs with handle and body of minimum diameter, yet fit standard jacks. Offer various terminal combinations: A) Dual purpose sleeve terminal clamped over metal braid of shielded cables; B) Sleeve terminal can be clamped over outer insulation of 2-conductor cable (extra lug in terminal for wire connection); C) Screw terminal type has no cable clamp (one screw in each terminal). Plastic or metal handles 1 3/8" long x 1/2" dia. Exterior metal nickel-plated.

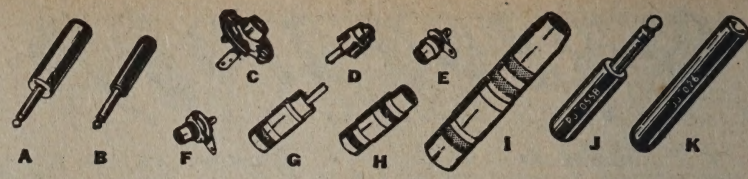
Two-Conductor

No.	Handle	Description	Net
240	Black	Screw Terminal	$0.75
245	Red	Screw Terminal	.75
250	Black	Clamp-lug Terminal	.72
255	Red	Clamp-lug Terminal	.72
270	Metal	Screw Terminal	1.05
280	Metal	Clamp-lug Terminal	1.02
288	Metal	For use in 3-cond. jack	.75
S-250	Black	Clamp-lug Term., .206" dia. sleeve	.57
S-280	Metal	Clamp-lug Term., .206" dia. sleeve	1.02
R-280	Metal	Clamp-lug Terminal*	.99

Three-Conductor

260	Black	Screw Terminal	$1.20
267	Black	Clamp-lug Terminal	1.05
269	Red	Clamp-lug Terminal	1.05
290	Metal	Screw Terminal	1.38
297	Metal	Clamp-lug Terminal	1.32

*Similar to No. 280 but short sleeve for Revere Recorders.



PHONO CONNECTORS

No.	Fig.	Description	Net
3501F	C	Phono jack, 2 cond.	15c
3501M	D	Phono plug, 2 cond.	12c
3501MC	D	Phono plug, 2 cond. (cable clamp type)	15c
3501FP	E	Phono Jax, 1/16" O.D. for front panel mtg.	30c
3501FR	F	Phono Jax, 5/8" O.D. for rear panel mtg.	42c
3502	G	Phono plug removable handle. Cable clamp. Shielded. N.P.	42c
3503	H	Phono ext. Jax. Removable hdle. Cable clamp. Sh'lded. N.P.	51c

SHIELDED "EXTENSION JAX" (FIG. I)

Same O.D. 1/2" as "Littel Plugs". For attachment to cable. Built-in cable clamp is cable support and sleeve terminal. Solder terminals.

No.	Description	Net
121	2-cond. for 1/4" dia. phone plugs	$1.50
131	3-cond. for 1/4" dia. phone plugs	1.92

"LOCK-PLUG"*

No.	Description	Net
298*	3-cond. Sim. No. 297	$1.74

"LOCK-EXTENSION JAX"*

133†	3-cond. Mates with No. 298	$2.07

*Locks connection after plug inserted.
†Clamp-lug term. Shielded.

"LAMP JAX"

Switchboard panel type. Lamp completely insulated from frame. Interchangeable with WE #47B. Accepts standard switchboard lamps. Ideal for mounting on jack panel. **Switchcraft No. LT-47**—Net Ea. . . **$1.05**

"LITTEL-PLUG" AND "EXTENSION JAX"—MIL-TYPES

"Littel-Plug" (**Fig. J**) one-piece tip rod and one-piece sleeve and plug body, providing plug with complete continuity of thermoplastic insulation. Internally interlocked. "Extension Jax" (**Fig. K**) is cable jack with long brass body, spring tempered nickel silver springs, insulated by phenolic spacers and tubing.

No.	Description	Net
430*	2-cond., screw term., blk. PJ-054B (old SC PL-54)	$1.17
435*	2-cond., screw term., red. PJ-054R (old SC PL-354)	1.17
440	2-cond., screw term., blk. PJ-055B (old SC PL-55)	1.17
445	2-cond., screw term., red. PJ-055R	1.17
450*	2-cond., screw term., blk. PJ-540B (old SC PL-540)	1.17
455*	2-cond., screw term., red. PJ-540R	.....
470	2-cond., screw term., shld. PJ-055M (old SC PL-125)	1.59
480	3-cond., screw term., blk. PJ-068 (old PL-68)	2.73
820	2-cond., screw term., blk. JJ-026 (old SC JK-26)	1.65

*Mates with No. 820 jack.

STEEL JACK COVERS (NOT ILLUS.)

Series 500 for 3/8"-32 threaded jacks.

Part No.	Description	Net Each
510	Olive Drab	$0.99
512	Bright Nickel	.99
515	Black	.99
520	Navy Gray	.99

"TINI-JAX" MINIATURE PHONE JACKS

Subminiature phone jacks with notched insulating washers that interlock mechanically with the springs and solder lugs, preventing shorts. Mount in 1/4" hole in 1/8" thick panels.

Model 41 (Fig. A)—2-conductor, open circuit. Net Each. . **$0.39**
Model 42A (Fig. B)—2-conductor, closed circuit. Net Ea. . **.42**
Model 43A (Not Illus.)—2-conductor, transfer circuit. Net **.66**

"TINI-PLUGS"

For use with "Tini-Jax" on up to 3/16" O.D. cable. Terminals and body mechanically interlocked. One-piece tip rod staked into mating terminal; no disassembly of tip during use. Black or Red plastic handles (**Fig. C**) or Nickel-plated Brass, shielded (**Fig. D**).

Model 740—Black plastic handle. Screw Terminals. Net Ea. **69c**
Model 745—Red plastic handle. Screw Terminals. Net Each **69c**
Model 750—Black plastic handle. Solder Lugs. Net Each. . **66c**
Model 755—Red plastic handle. Solder Lugs. Net Each. . . . **66c**
Model 770—Shielded Handle, Screw Terminals. Net Each. . **96c**
Model 780—Shielded Handle, Solder Lugs. Net Each. **93c**

"TINI-EXTENSION-JAX"

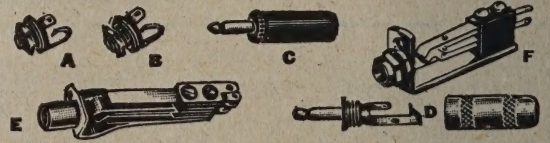
Model 125 (Not Illus.)—2-conductor, shielded handle, solder lug terminals. Net Each. **$1.20**

"M-JAX"—MILITARY JACKS (FIG. F)

Heavy frame, 2 11/16" d., 3/8" hole in panels up to 1/4" thick.

Switchcraft No.	Circuit	MIL No.	Net Each	Switchcraft No.	Circuit	MIL No.	Net Each
M-443B	(G)	JJ-106	$1.80	M-444B	(J)	JJ-082	$1.92
M-444*	(J)	JJ-083	1.92	M-445	(N)	JJ-104	2.31
				M-446A	(V)	JJ-081	3.24

*Bushing .2085", to mate with plugs PJ-068 and PJ-309.



"T-JAX" AND "MT-JAX"

Long frame, switchboard jacks. **"MT-JAX"** (**Fig. E**) for high quality communication and military equipment, featuring welded crossbar palladium contacts. Frame hole on top also available, add prefix **"C"** to part number. All types listed mate with 1/4" dia. plug sleeves except MT-342B and MT-344B, for .2085" dia. PJ-068 (No. 480). **"T-JAX"**, commercial quality, for low cost communication equipment where economy is all important.

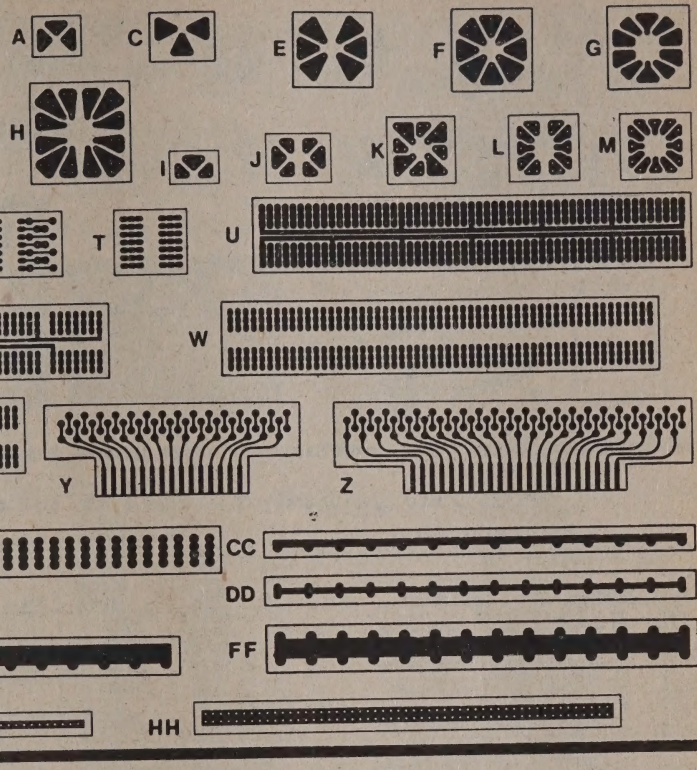
No.	Circuit	Net Each	No.	Circuit	Net Each
T-331	(A)	$0.87	T-332B	(D)	$0.99
T-332A	(C)	.99	T-334B	(J)	1.23

Switchcraft No.	Circuit	MIL No.	Net Each	Switchcraft No.	Circuit	MIL No.	Net Each
MT-331	(A)	JJ-086	$1.02	MT-334C	(K)	JJ-072	$1.41
MT-332A	(C)	JJ-024	1.20	MT-334E	(L)	JJ-085	1.41
MT-332B	(D)	JJ-022	1.20	MT-334F	(M)	JJ-035	1.41
MT-332C	(E)	JJ-016	1.38	MT-336A	(O)	JJ-075	2.04
MT-333	(F)	JJ-084	1.35	MT-336B	(P)	JJ-077	2.04
MT-333B	(G)	.....	1.38	MT-336C	(Q)	JJ-073	2.04
MT-333E	(H)	.....	1.05	MT-342B	(D)	.....	1.38
MT-334A	(I)	.....	1.41	MT-344B	(J)	.....	1.62
MT-334B	(J)	JJ-042	1.41				

circuit-stik® Instant Circuit Boards™

ADHESIVE-BACKED COPPER PATTERNS

A PROVEN TECHNIQUE TO PRODUCE HIGH RELIABILITY CIRCUIT BOARDS *DIRECTLY* FROM SKETCHES OR LOGIC DIAGRAMS.



SERIES 1000 PRE-DRILLED SUB-ELEMENTS

Aerospace concept of circuit packaging permits rapid assembly of all prototypes and limited quantity production systems directly from engineering schematics and logic flow diagrams. Sub-elements are pre-drilled on .100″ grid to match pre-drilled board material. All sub-element conductors are preplated and ready for soldering.

Etched copper sub-elements are supplied on thin substrates of high strength pressure sensitive adhesive backing. These are designed to withstand soldering temperatures, offer good adhesion strength and can be removed when change requires a Circuit-Stik "instant" modification.

TYPES TO-5 AND TO-18 SUB-ELEMENTS

Model No.	Fig.	Description	Pcs. per Pkg.	Net per Pkg.
1001-010	A	TO-5 or TO-18, 3-lead	10	$3.00
1001-030	A	TO-5 or TO-18, 3-lead on 5 strips	30	8.00
1021-010	C	TO-5, 3-lead	10	3.00
1021-030	C	TO-5, 3-lead on 5 strips	30	8.00
1023-010	E	TO-5, 6-lead	10	3.50
1023-030	E	TO-5, 6-lead on 5 strips	30	9.50
1024-010	F	TO-5, 8-lead	10	3.50
1024-030	F	TO-5, 8-lead on 5 strips	30	9.50
1025-010	G	TO-5, 10-lead	10	3.50
1025-030	G	TO-5, 10-lead on 5 strips	30	9.50
1026-010	H	TO-5, 12-lead	10	4.00
1026-030	H	TO-5, 12-lead on 5 strips	30	10.75

COMPACT TYPE TO-5 SUB-ELEMENTS

1031-010	I	TO-5 or TO-18, 3-lead	10	$3.00
1031-030	I	TO-5, 3-lead on 5 strips	30	8.00
1033-010	J	TO-5, 6-lead	10	3.50
1033-030	J	TO-5, 6-lead on 5 strips	30	9.50
1034-010	K	TO-5, 8-lead	10	3.50
1034-030	K	TO-5, 8-lead on 5 strips	30	9.50
1035-010	L	TO-5, 10-lead	10	3.50
1035-030	L	TO-5, 10-lead on 5 strips	30	9.50
1036-010	M	TO-5, 12-lead	10	4.00
1036-030	M	TO-5, 12-lead on 5 strips	30	10.75

FLAT PACK, SUB-ELEMENTS SPREAD LEAD CONFIGURATION

1061-010	Q	10-lead	10	$3.50
1062-010	Q	14-lead	10	3.50
1066-010	Q	22-lead	10	7.00
1067-010	Q	24-lead	10	7.00
1069-005	Q	28-lead	5	5.00
1073-005	Q	36-lead	5	6.00
1075-005	Q	40-lead	5	7.50
1076-005	Q	42-lead	5	7.50

COMPACT, FLAT PACK SUB-ELEMENTS

1081-010	R	10-lead	10	$3.50
1082-010	R	14-lead	10	3.50
1086-010	R	22-lead	10	6.00
1087-010	R	24-lead	10	6.00

COMPACT, FLAT PACK SUB-ELEMENTS (CONT'D)

Model No.	Fig.	Description	Pcs. per Pkg.	Net per Pkg.
1089-005	R	28-lead	5	$3.50
1093-005	R	36-lead	5	4.75
1095-005	R	40-lead	5	6.00
1096-005	R	42-lead	5	6.00

DUAL-IN-LINE PACKAGE SUB-ELEMENTS

1101-010	S	14-lead	10	$3.50
1101-030	S	14-lead on 5 strips	30	9.50
1103-010	S	16-lead	10	3.50
1103-030	S	16-lead on 5 strips	30	9.50
1102-010	T	14-lead	10	3.50
1202-005	U	6 DIP's/strip, 14 or 16-lead*	5	10.50
1204-005	V	6 DIP's/strip, 14-lead, 7/14 pins*	5	7.50
1206-005	W	Universal, 30 DIP's on 5 strips	5	9.60
1208-005	X	6 DIP's/strip, 14-lead	5	7.50

*Power and grounded available.

PLUG-IN CONNECTOR STRIPS (HARD GOLD OVER NICKEL PLATE)

1351-005	Y	15-pin, .100″ spacing*	5	$ 9.00
1352-005	Y	15-pin, .100″ spacing†	5	9.00
1353-005	Y	15-pin, .125″ spacing*	5	9.00
1354-005	Y	15-pin, .125″ spacing†	5	9.00
1355-005	Y	15-pin, .156″ spacing*	5	9.00
1356-005	Y	15-pin, .156″ spacing†	5	9.00
1361-005	Z	22-pin, .100″ spacing*	5	10.50
1362-005	Z	22-pin, .100″ spacing†	5	10.50
1363-005	Z	22-pin, .125″ spacing*	5	10.50
1364-005	Z	22-pin, .125″ spacing†	5	10.50
1365-005	Z	22-pin, .156″ spacing*	5	10.50
1366-005	Z	22-pin, .156″ spacing†	5	10.50

*Component side. †Circuit side.

DISCRETE COMPONENT STRIPS

1302-005	AA	16 strips, 80 mounts	5	$6.50
1311-010	BB	Universal strip, 80 mounts	10	7.00

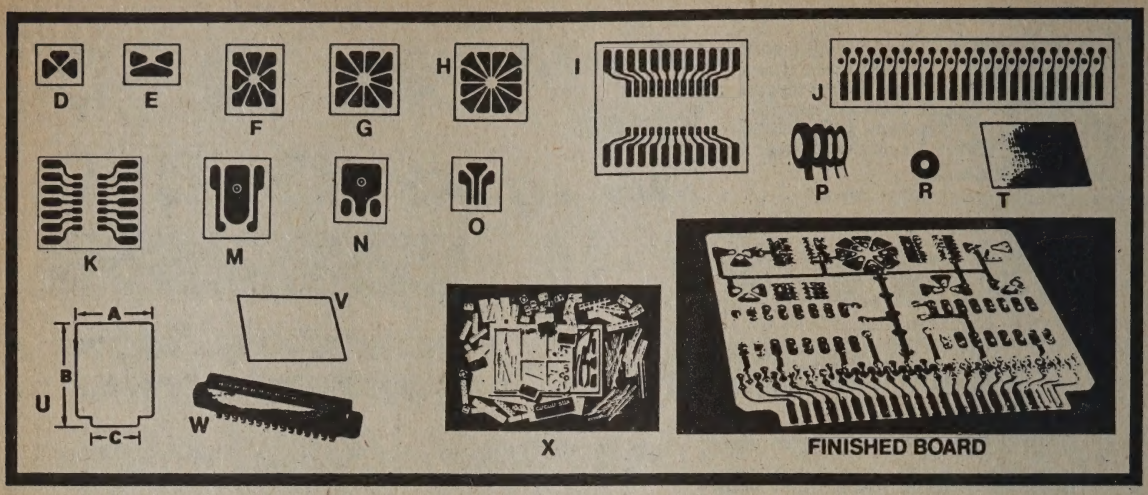
DISTRIBUTION STRIPS

1321-010	CC	.100″ wide	10	$4.00
1322-010	DD	.063″ wide	10	4.75
1323-010	EE	.250″ wide	10	5.25
1324-010	FF	.250″ wide	10	6.00
1325-010	GG	Single row, .100″ hole spacing	10	4.75
1326-010	HH	Double row, .100″ hole spacing	10	5.25

circuit-stik®

Instant Circuit Boards™

ADHESIVE-BACKED COPPER PATTERNS



SERIES 2000 SUB-ELEMENTS—UNDRILLED; OFF-GRID ETCHED HOLES

SUB-ELEMENTS

Model No.	Fig.	Description	Pcs. per Pkg.	Net per Pkg.
2001-010	D	TO-18, 3-lead	10	$2.50
2001-030	D	TO-18, 3-lead on 5 strips	30	6.75
2021-010	E	TO-5, 3-lead	10	2.50
2021-030	E	TO-5, 3-lead on 5 strips	30	6.75
2024-010	F	TO-5, 8-lead	10	3.00
2024-030	F	TO-5, 8-lead on 5 strips	30	8.00
2025-010	G	TO-5, 10-lead	10	3.00
2025-030	G	TO-5, 10-lead on 5 strips	30	8.00
2026-010	H	TO-5, 12-lead	10	3.50
2026-030	H	TO-5, 12-lead on 5 strips	30	9.50
2101-010	K	DIP Dual-in-line, 14-lead	10	3.50
2102-010	I	MSI Dual-in-line, 24-lead	10	7.00
2367-005	J	22-pin connector, gold-plated .156″ spacing, component side	5	9.00
2368-005	J	22-pin connector strip, .156″ spacing, circuit side	5	9.00
2301-005	.....	21 discrete components, strip	5	5.50
1404-010	M	TO-3	10	5.00
1405-010	N	SCR stud mtg.	10	3.00
1406-010	O	SCR flat pkg. mtg.	10	3.00

MYLAR* TAPE, PRESSURE SENSITIVE ADHESIVE

7151	P	.100″ w. x 30 ft. long	1	$1.00
7152	P	.150″ w. x 30 ft. long	1	1.25
7153	P	.200″ w. x 30 ft. long	1	1.50
7154	P	.300″ w. x 30 ft. long	1	2.00

*Reg. DuPont TM.

COPPER DONUT PADS, PRESSURE SENSITIVE ADHESIVE

Model No.	Fig.	Description	Pcs. per Pkg.	Net per Pkg.
7201	R	.100″ dia.	250	$3.00
7202	R	.125″ dia.	250	3.00
7203	R	.187″ dia.	250	3.50
7204	R	.250″ dia.	250	4.25
7251	V	Copper sheet, 5″ x 6″, adhesive backing	5	5.75
7261	V	Epoxy-glass insulative sheet, .0025″ x 5″ x 6″, adhesive backing	5	5.75

EPOXY-GLASS BOARD MATERIAL

7301	T	Pre-drilled .042″ holes on .100″ grid, 8½″ x 17″	1	$8.95
7351	V	Plain, 6″ x 12″	1	1.95
7352	V	Plain, 12″ x 18″	1	5.35

CONNECTORS, .156″ PIN SPACING

7501	W	15 pins	1	$ 2.35
7502	W	30 pins	1	2.75
7503	W	22 pins	1	3.00
7504	W	44 pins	1	3.50
8951	X	Prototype kit	1	99.50

COPPER TAPE, PRESSURE SENSITIVE ADHESIVE

Model No.	Fig.	Description	Pcs. per Pkg.	Net per Pkg.
7101	P	.062″ w. x 9 ft. long	1	$1.00
7102	P	.100″ w. x 9 ft. long	1	1.20
7103	P	.187″ w. x 9 ft. long	1	1.35
7104	P	.250″ w. x 9 ft. long	1	2.50
7105	P	.031″ w. x 9 ft. long	1	1.00
7106	P	.040″ w. x 9 ft. long	1	1.00
7107	P	.050″ w. x 9 ft. long	1	1.00
7108	P	.200″ w. x 9 ft. long	1	2.50

COPPER TAPE IN .005″ WIDTH INCREMENTS

The conductive tape is also available in .005″ width increments from .015″ to 1.00″ widths (±.002″). To order, add prefix SPN 2 to tape width desired (e.g., SPN 2035 is .035″ width); prices as follows in 9-ft. rolls.

Model Numbers	Width	Net/Roll
SPN 2015 to SPN 2025	.015″ to .025″	$2.00
SPN 2030 to SPN 2085	.030″ to .085″	1.00
SPN 2090 to SPN 2115	.090″ to .115″	1.20
SPN 2120 to SPN 2145	.120″ to .145″	1.35
SPN 2150 to SPN 2195	.150″ to .195″	2.00
SPN 2200 to SPN 2395	.200″ to .395″	2.50
SPN 2400 to SPN 2595	.400″ to .595″	4.00
SPN 2600 to SPN 2795	.600″ to .795″	6.00
SPN 2800 to SPN 2995	.800″ to .995″	8.00

PRE-SHAPED EPOXY-GLASS BOARDS (FIG. U)

Designed for standard card cages and routed to shape. Pre-drilled .042″ dia. holes on .100″ grid pattern; or, plain. Notched for proper insertion depth in connector.

PRE-DRILLED

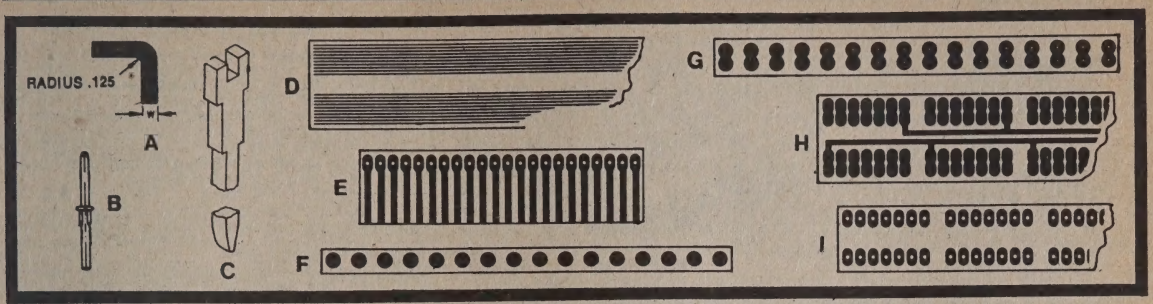
Model No.	Dim. A	Dim. B	Width		Net Each
			Pins	Ctrs.	
7402	4.5″	6.5″	22/44	.156″	$5.95
7405	4.0″	4.5″	15/30	.156″	4.95
7408	4.5″	6.5″	22/44	.100″	5.95
7409	4.0″	4.5″	15/30	.100″	4.95
7410	4.5″	6.5″	22/44	.125″	5.95
7411	4.0″	4.5″	15/30	.125″	4.95
7412	4.5″	6.5″	21	.078″	5.95
7413	4.0″	4.5″	14	.078″	4.95

PLAIN

7452	4.5″	6.5″	22/44	.156″	$3.25
7455	4.0″	4.5″	15/30	.156″	2.75
7458	4.5″	6.5″	22/44	.100″	3.25
7459	4.0″	4.5″	15/30	.100″	2.75
7460	4.5″	6.5″	22/44	.125″	3.25
7461	4.0″	4.5″	15/30	.125″	2.75
7462	4.5″	6.5″	21	.078″	3.25
7463	4.0″	4.5″	14	.078″	2.35

circuit-stik® Instant Circuit Boards™

ADHESIVE-BACKED COPPER PATTERNS



PRESSURE SENSITIVE COPPER ELBOWS (FIG. A)

Corner radius, .125".

Model	Line Width	Net/100	Model	Line Width	Net/100
7121	.050"	$2.00	7123	.100"	$2.50
7122	.062"	2.00	7124	.125"	2.50

COMPACT CONNECTOR SUB-ELEMENTS

Gold-plated and nickel-plated over copper connector strips. Each strip 0.45" long for each pin. Have pre-drilled holes on .100" grid pattern unless otherwise noted.

Model No.	Fig.	Pin Ctrs. Spaced, In.	No. of Pins	Strips per Pkg.	Net per Pkg.
1382-005	E	.100	10	5	$ 3.00
1383-005	E	.100	12	5	3.50
1384-005	E	.100	14	5	4.00
1385-005	E	.100	15	5	4.00
1386-005	E	.100	19	5	4.75
1387-005	E	.100	22	5	5.25
1388-005	E	.100	24	5	6.00
1389-005	E	.100	26	5	6.00
1390-005	E	.100	28	5	7.00
1391-005	E	.100	34	5	8.25
1392-005	E	.100	39	5	9.00
1393-005	E	.200	34	5	12.50
2369-005*	E	.078	14	5	3.00
2370-005*	E	.078	21	5	4.00
2371-005*	E	.125	15	5	4.75
2372-005*	E	.125	22	5	6.00
2373-005*	E	.156	15	5	5.25
2374-005*	E	.156	22	5	6.50

*Undrilled; off-grid etched holes.

STRIPLINE CONDUCTORS, INSULATED SUBSTRATE

For high and medium density interconnections.

Model No.	Fig.	Dimensions, Inches: Line Width	Length	Ctr. to Ctr. Spacing	Lines per Pkg.	Net per Pkg.
1327-020	D	.010	5.5	.025	20	$2.00
1328-020	D	.020	5.5	.040	20	2.00
1329-020	D	.020	5.5	.050	20	2.50
1330-010	D	.031	5.5	.081	10	2.50
1331-010	D	.040	5.5	.090	10	2.50
1332-010	D	.050	5.5	.100	10	2.50
1333-010	D	.062	5.5	.112	10	3.00
1334-010	D	.080	5.5	.130	10	3.00
1335-010	D	.093	5.5	.143	10	3.50
1336-010	D	.100	5.5	.150	10	3.50
1337-010	D	.125	5.5	.175	10	4.00
1338-005	D	.200	5.5	.250	5	3.00
1339-005	D	.250	5.5	.300	5	4.00

OUR STOCK IS COMPLETE AND UP TO DATE.

WRITE FOR ADDITIONAL INFORMATION ON

ANY NEW OR UNLISTED ITEMS

TIN PLATED, PHOSPHOR BRONZE TERMINAL PINS

Model No. 7541-100 Flanged Pins (Fig. B)—Use as test points, terminals or guide pins to speed registration of sub-elements to pre-drilled boards. Tip, .040" dia. x .225" lg. Flange, .085" dia. Other end .040" dia. x .305" lg. Overall, .550" lg. Fits .042" hole. Net per Pkg. of 100 ..... $ 2.50
Model No. 7541-1000—Same, Net per Pkg. of 1000 ..... 17.50
Model No. 7542-100 Wire Wrap Pins (Fig. C)—Used with Circuit-Stik sub-elements to incorporate all components (including flat-packs) into wire wrap boards. No staking needed. Tip end, .025" sq. trimmed to point. Stands .158" h. above board with .093" lg. x .042" sq. section. Fork at top, .063" w. x .025" d. x .065" h. with notch .021" w. x .033" d. Net per Pkg. of 100 ..... $ 3.50
Model No. 7542-1000—Same. Net per Pkg. of 1000 ..... 24.50

INSULATED DONUT PADS

For universal PC board construction and repair applications such as rows of discrete components, individual donut pad placement, tape and wire terminations, etc. Each strip of pads is 3" long.

SINGLE DONUT PADS

Model No.	Fig.	Pad Size, In. O.D. x I.D.	Pad Centers Spacing	Pads per Pkg.	Net per Pkg.
1340-010	F	.062 x .025	.100	310	$3.00
1341-010	F	.085 x .040	.100	310	3.00
1342-010	F	.160 x .040	.200	160	3.00
1343-010	F	.125 x .040	.200	160	3.00
1344-010	F	.187 x .040	.300	110	4.00
1345-010	F	.250 x .040	.300	110	4.00
DOUBLE DONUT PADS					
1346-010	G	.100 x .040	.200*	160	$4.75
1347-010	G	.125 x .040	.200*	160	4.75
1348-010	G	.187 x .040	.200*	160	4.75
1349-010	G	.250 x .040	.300†	110	6.00

Spacing shown for double pads is between adjacent pairs; each pair has center holes spaced: *.100"; †.200".

COMPACT DUAL-IN-LINE SUB-ELEMENTS

For high density boards. Each strip mounts 6 dual-in-line packages. Interconnect with conductive tape or stripline.

Model No.	Description	Strips per Pkg.	Net per Pkg.
1221-005*	Double pad: 16-lead DIP, Vcc and grnd.	5	$8.25
1222-005*	Double pad: 14-lead DIP, Vcc and grnd.	5	7.50
1223-005*	Double pad: 14- or 16-lead univ. DIP	5	8.25
1224-005*	Double pad 14-lead DIP	5	7.50
1231-005†	Single pad: 16-lead DIP, Vcc and grnd.	5	7.50
1232-005†	Single pad: 14-lead DIP, Vcc and grnd.	5	7.00
1233-005†	Single pad: 14- or 16-lead univ. DIP	5	7.50
1234-005†	Single pad: 14-lead DIP	5	7.00

*Figure H. †Figure I.

NEW LOW COST, LOW PROFILE DIP SOCKETS

Low cost line of DIP sockets designed particularly for high volume commercial use. Available in all sizes from 8 to 40-pin, these sockets accept both standard width plugs and narrow IC chips. For use with chips, sockets offer low-profile height of .145" above the board. Economical, but effective, tin plating of solder-tail length contact pins helps reduce socket cost. Socket line is end-stackable; that is, the .100" center distance is maintained from one socket to the next. This allows a continuous strip socket without loss of grid points.

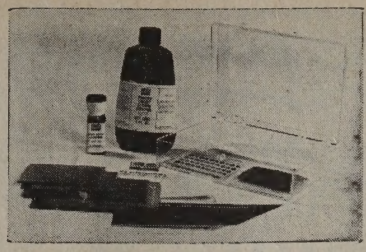
SPECIFICATIONS

Insulator: Glass-filled thermoplastic polyester (UL recognized SE-O).
Contact: Copper alloy, .010" leaf spring.
Plating: .000100" bright tin plating. Gold plating available.

Circuit-Stik Number	Contacts	Dimensions, Inches: A	B	C	D	E	F	Net Each
CS7-SE08-T	8	.400	.300	.200	.310	.495	.300	$0.25
CS7-SE14-T	14	.700	.600	.200	.310	.495	.300	.29
CS7-SE16-T	16	.800	.700	.200	.310	.495	.300	.35
CS7-SE18-T	18	.900	.800	.200	.310	.495	.300	.41
CS7-SE22-T	22	1.100	1.000	.300	.410	.595	.400	.57
CS7-SE24-T	24	1.200	1.100	.500	.610	.795	.600	.67
CS7-SE28-T	28	1.400	1.300	.500	.610	.795	.600	.81
CS7-SE36-T	36	1.800	1.700	.500	.610	.795	.600	1.08
CS7-SE40-T	40	2.000	1.900	.500	.610	.795	.600	1.15

PRINTED CIRCUIT MATERIAL, KITS AND ACCESSORIES

22-234



22-296 Kit

PRINTED CIRCUIT MATERIAL AND KITS

G-C Etch Resist Ink Pen—Felt tip pen for making resist circuits directly on PC boards. Fine point black ink dries instantly. Can be removed with resist ink remover or fine steel wool.
No. 22-220—Net Each..... **$1.10**
G-C Etch Resist Sensitizer—Photo sensitizes PC boards. Air dries in seconds.
No. 22-230—3-oz. aerosol. Net. **$ 2.97**
No. 22-231—16-oz. aerosol. Net **10.67**
G-C Developing Solution—For developing patterns on PC boards. Perfect pattern in less than a minute. Makes PC board non-sensitive to light.
No. 22-234—16-oz. Net Each..... **$1.27**
No. 22-235—1 gallon. Net Each. **6.55**
G-C Etching Solution—For removing copper foil from PC boards.
No. 22-237—6-oz. Net Each..... **$1.32**
No. 22-238—32-oz. Net Each..... **3.25**
G-C Stripping Solution—Removes remaining etch resist, dye and lacquer from PC boards after etching process.
No. 22-240—2-oz. Net Each..... **$1.05**
G-C Etch Resist Lacquer—For drawing circuit patterns on PC boards.
No. 22-244—½ oz. Net Each..... **$0.85**
G-C Silicone Resin Lacquer—Provides tough protective coat on PC. Insulates, protects and prevents arcing and shorting.
No. 22-245—16-oz. aerosol. Net... **$5.49**
G-C Silver Print—For drawing or repairing printed circuits. Leaves a highly conductive coating. Air drying. Pure silver.
No. 22-246—½ Troy oz. Net... **$11.90**
G-C Printed Circuit Boards—Made of glass epoxy base. 1 oz. grade—0.0014.
No. 22-250—3″ x 5″ x 1/16″ copper one side. Net Each..... **$1.38**
No. 22-255—3″ x 5″ x 1/16″ copper both sides. Net Each..... **$1.38**
No. 22-260—4″ x 6″ x 1/16″ copper one side. Net Each..... **$2.15**
No. 22-265—4″ x 6″ x 1/16″ copper both sides. Net Each..... **$2.15**
G-C Drill Bits—For drilling component lead wire holes in phenolic and glass epoxy PC boards. High speed tool steel for long life. Standard aircraft length.
No. 22-275—No. 66 Bit (.0330″ dia.); No. 60 Bit (.0400″ dia.); No. 1/16 Bit (.0625″ dia.). Net Each..... **$2.40**
No. 22-276—No. 3/32 Bit (.0938″ dia.); No. 31 Bit (.1200″ dia.); No. 27 Bit (.1440″ dia.). Net Each..... **$2.60**
G-C Contact Frame—Assures perfect transfer of circuit negatives to sensitized 4½″ to 6½″ PC boards.
No. 22-280—Net Each..... **$5.45**
G-C Developing and Etching Tray Set—Aluminum and plastic trays for developing and etching PC boards. Includes 2 aluminum trays for developing and 1 plastic tray for etching PC boards.
No. 22-284—Set of 3 trays. Net... **$1.65**
G-C Layout Film—For printed circuit layout. Made of DuPont Mylar Matte finish.
No. 22-290—2 sheets, 8½″ x 11″... **$1.21**
No. 22-292—1 sheet, 34″ x 44″..... **4.29**
G-C Ruby Lith—Makes negatives of PC patterns without using photographic equipment. Cut and peel type. 1 sheet, 34″ x 44″.
No. 22-294—Net Each..... **$1.32**
G-C Printed Circuit Kit—Kit contains 4½″ x 3″, 4½″ x 2″ and 2¼″ x 3″ (2) copper clad boards, etching solution, etch resist lacquer, layout strips and circles, polishing pad and brushing tool. With instruction manual and etching tank plastic case.
No. 22-296—Net Each..... **$5.95**
G-C Professional Printed Circuit Kit—Kit contains: Drafting aids, tray set, etch resist sensitizer, etch resist lacquer, developing solution, etch solution, stripping solution, layout film (2 sheets, 8½″ x 11″), contact frames and 2 PC boards (3″ x 5″ x 1/16″; 4″ x 6″ x 1/16″).
No. 22-297—Net Each..... **$21.95**

PRESSURE SENSITIVE PC DRAFTING AIDS

Pressure sensitive adhesives with repeat adhesive can be re-positioned several times All patterns accurate to ±.002 (IPC Standard) or better. Net/Pkg..... **$1.27**

G-C No.	Description*	Qty./ Pkg.
21-100	TO-5, 3-lead	18
21-200	Twice 21-100 size	18
21-400	Four times 21-100 size	16
21-101	TO-5, 4-lead	20
21-201	Twice 21-101 size	18
21-401	Four times 21-101 size	16
21-102	TO-5, dual transistor	20
21-202	Twice 21-102 size	18
21-402	Four times 21-102 size	16
21-103	TO-5, 8-lead	20
21-203	Twice 21-103 size	18
21-403	Four times 21-103 size	16
21-104	TO-5, 10-lead	20
21-204	Twice 21-104 size	18
21-404	Four times 21-104 size	16
21-105	TO-5, 12-lead	20
21-205	Twice 21-105 size	18
21-405	Four times 21-105 size	16
21-110	TO-18, 3-lead	20
21-210	Twice 21-110 size	18
21-410	Four times 21-110 size	16
21-120	Dual in-line, 14-lead	16
21-220	Twice 21-120 size	16
21-420	Four times 21-120 size	5
21-121	Dual in-line, 16-lead	16
21-221	Twice 21-121 size	16
21-421	Four times 21-121 size	5
21-130	Flatpack, 14-lead	16
21-230	Twice 21-130 size	16
21-430	Four times 21-130 size	5
21-131	Flatpack, 14-lead	16
21-231	Twice 21-131 size	16
21-431	Four times 21-131 size	5
21-152	Delineation marks	15
21-252	Twice 21-152 size	18
21-452	Four times 21-152 size	16
21-150	Targets	24
21-250	Twice 21-150 size	18
21-450	Four times 21-150 size	5
21-140	Connector contact patterns	8
21-240	Twice 21-140 size	6
21-440	Four times 21-140 size	5
21-141	Connector contact patterns	8
21-241	Twice 21-141 size	6
21-441	Four times 21-141 size	5
21-142	Connector contact patterns	8
21-242	Twice 21-142 size	6
21-442	Four times 21-142 size	5

***DIMENSIONS**

G-C No.	Inches O.D.	I.D.	†	‡
21-100	.100	.015	.041	.200
21-101	.080	.015	.026	.150
21-102	.058	.015	.020	.200
21-103	.062	.015	.025	.200
21-104	.062	.015	.025	.230
21-105	.062	.018	.018	.230
21-110	.087	.015	.025	.100
21-120	#	.015	.030	.300
21-121	#	.015	.030	.300
21-130	§	§	.023	.312▲
21-131	•	•	.018	.250▲
21-140	■	■	.050	.....
21-141	♦	♦	.062	.....
21-142	ɪ	ɪ	.062	.....

†Space between terminals. ‡Overall width center to center. §.187″ w. x .027″ d. #.125″ w. x .070″ d. •.123″ w. x .032″ d. ▲Between inner edges of 7-lead patterns. ■.375″ w. x .050″ d. ♦.375″ w. x .062″ d. ɪ.375″ w. x .093″ d.

G-C also offers a wide range of "B" NEG negative drafting aids, donut pads, combination pack, drafting tape, combination assortments and component removing set (Quick-Pick). Write for complete information.

PRINTED CIRCUIT AIDS

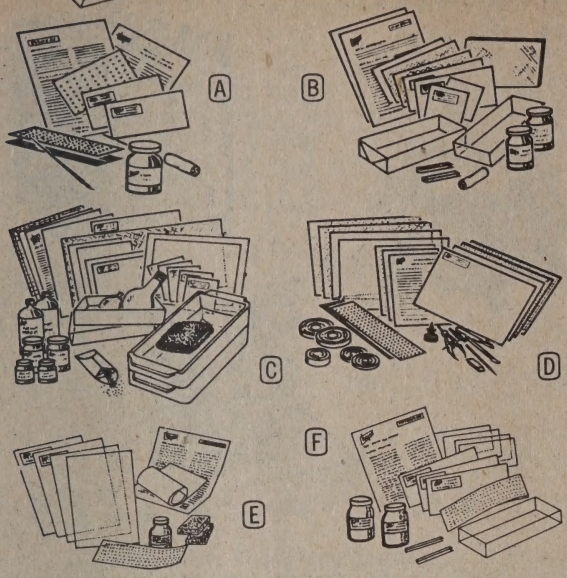
G-C Master Printed Circuit Kit—Kit includes: Special printed circuit soldering iron with small tip, low-melt solder, solder washers (fluxed), special PC soldering probe, small tweezers, Print-Kote silicone resin spray No. 14-6, complete instructions.
No. 683—Net Each..... **$18.35**
G-C Standard Printed Circuit Kit—Same as above, less soldering iron.
No. 682—Net Each..... **$8.75**
G-C Solder-Wick—Desolders any connection in seconds. Absorbs molten solder instantly. Eliminates component damaging heat build-up.
No. 684—Size, 2, yellow label for miniature PC boards. Pads, .060″–.125″. Net. **$1.64**
No. 685—Size 4, blue label for commercial PC boards and connectors. Pad size, .190″ or larger. Net Each..... **$1.85**
G-C Printed Circuit Service Kit—Kit contains: 14-2 Print-Kote silicone resin, 13-2 Print-Kote solvent, 21-1 ½ Troy oz. pure silver print, 9093 solder probe tool, 9094 stainless brush/scraper, special Print-Kote solder and PC service manual.
No. 680—Net Each..... **$16.62**
G-C K27 Print-Kote Printed Circuit Spray—Spray after repairing TV printed circuit to insulate, protect and prevent shorts.
No. 14-6—6-oz. aerosol. Net Each. **$3.03**
No. 14-2—2-oz. bottle. Net Each.. **1.71**
G-C Pure Silver Print—Coating containing pure silver powder as pigment. Used for making or repairing printed circuits. Used to apply conductive coating to non-conductors. Brush applicator in cap.
No. 21-1—½ Troy oz. Net..... **$11.77**
No. 21-2—1 Troy oz. Net Ea... **23.25**
G-C Copper Print—High conductive, fast drying compound to touch up printed circuits. Complete with brush-cap bottle.
No. 20-2—2-oz. Net Each..... **$2.75**
G-C Print-Kote Solvent—Only solvent for silicone resin. Dissolves and removes silicone resin from printed circuits. Can be used for thinner for 14-2 Print-Kote resin.
No. 13-2—2-oz. Net Each..... **$0.66**
G-C Print-Kote Soldering Flux—Non-corrosive liquid flux for easy PC soldering and repairing. Brush-cap bottle.
No. 12-2—2-oz. Net Each..... **$0.83**
G-C Printed Circuit Repair Solder—Specially made for printed circuits. Non-corrosive flux and low melting solder.
No. 9131—11 foot coil. Net Each.. **$0.88**

SOLDER AID TOOLS

PC TYPE MINIATURE SIZE—5¾″ LONG
G-C Reamer and Scraper Tip—Twist proof chrome plated steel for scraping joints or reaming out lug holes. Ends insulated.
No. 9069—Plastic handle. Net.... **$1.25**
No. 9469—Wood handle. Net..... **1.25**
G-C Brush and Forked Tip—For holding or twisting wires. Ends insulated.
No. 9073—Plastic handle. Net.... **$1.30**
No. 9473—Wood handle. Net..... **1.30**
G-C Brush and Scraper Tip—For cleaning and scraping joints. Both ends insulated.
No. 9074—Plastic handle. Net.... **$1.25**
No. 9474—Wood handle. Net..... **1.25**
G-C Straight Reamer and Forked Tip—Made from heat treated tool steel.
No. 9075—Plastic handle. Net.... **$1.25**
No. 9475—Wood handle. Net..... **1.25**
G-C Angled Reamer and Forked Tip—Forked tip for holding or twisting wires, angled reamer on the other end.
No. 9076—Plastic handle. Net.... **$1.25**
No. 9476—Wood handle. Net..... **1.25**

STANDARD TYPE SIZE—7½″ LONG
G-C Straight Reamer and Forked Tip—Chrome plated steel. Ideal for cleaning out lug holes or twisting and holding wires.
No. 9086—Plastic handle. Net.... **$1.50**
No. 9486—Wood handle. Net..... **1.50**
G-C Heavy Duty Brush and Forked Tip—Stiff wire brush for cleaning; forked tip for holding wires. Special stainless steel with hardened probe.
No. 9088—Plastic handle. Net.... **$1.50**
No. 9488—Wood handle. Net..... **1.50**
G-C Angle Reamer and Forked Tip—Special stainless steel fine point probe to aid in soldering and probing printed circuits.
No. 9093—Plastic handle. Net.... **$1.50**
No. 9493—Wood handle. Net..... **1.50**
G-C Brush and Scraper Tip—For scraping and cleaning silicone resin from printed circuits. Fine stainless steel brush, hardened steel scraper.
No. 9094—Plastic handle. Net.... **$1.50**
No. 9494—Wood handle. Net..... **1.50**

Etched Circuit Kits



Kepro Etched Circuit Kits provide the engineer and experimenter with the materials, tools and knowledge to produce accurate, professional circuit boards using tested and proved methods. No experience is necessary to progress quickly and logically from simple printed circuit boards to short-run production quantities. Etched Circuit Kits available for manual-resist or photo-resist method. Photo Layout, Photo Resist and Nameplate kits add to the professional quality of your boards, using simple photographic processes.

STANDARD MANUAL-RESIST KITS (FIG. A)

For development of basic etched circuit patterns. Liquid and pressure-sensitive tape resists are applied directly to copper clad boards before etching. Kits include three 3″ x 6″ boards, clad on one side (one perforated); liquid resist pen; assorted conductor strips and termination circles; etching solution; tray; instructions.

Kepro No. S-101A Manual-Resist Etched Circuit Kit—With XXXP paper-base phenolic boards. Net Each.....**$5.15**

Kepro No. S-101A-G Manual-Resist Etched Circuit Kit—With G-10 glass epoxy boards. Net Each.....**$6.85**

PHOTO-RESIST CIRCUIT KITS (FIG. B)

Produce professional-quality etched circuit boards using photo-engraving process. Kits include: Two 3″ x 6″ and one 3″ x 3″ single-clad photo-sensitized boards; strip-and-peel mechanical negatives; developing and etching solutions; trays; accessories and complete instructions.

Kepro No. P-101A Professional Photo-Resist Kit—With XXXP paper base phenolic boards. Net Each.....**$7.60**

Kepro No. P-101A-G Professional Photo-Resist Kit—With G-10 glass epoxy boards. Net Each.....**$9.60**

MANUAL/PHOTO RESET LAB KITS (FIG. C)

Produce etched circuit boards using both manual-resist and photo-resist methods. Will meet all circuit board development needs of the design engineer or experimenter. Include more than 3 square feet of single and double-clad boards, both plain and photo-sensitized, for projects ranging from simple prototype circuits through short-run photo-processed production. Can produce boards up to 7″ x 10″. Kits include photo layout materials (mechanical negatives, pressure-sensitive conductor strips, termination circles, letters and numerals) to speed circuit artwork; chemicals; trays; exposure lamp; plus all necessary accessories and instructions.

Kepro No. L-505A Etched Circuit Lab Kit—With XXXP paper base phenolic boards. Net Each.....**$45.15**

Kepro No. L-505A-G Etched Circuit Lab Kit—With G-10 glass epoxy boards. Net Each.....**$55.85**

MASTER PHOTO LAYOUT KIT (FIG. D)

Prepare printed-circuit artwork quickly and professionally, using strip-and-peel mechanical negatives and pressure-sensitive conductor strips, termination circles, letters and numerals. Artwork can be used actual size as negative or positive, or produced at 2:1 or 4:1 scales and photographically reduced, for finer detail. Master kit includes materials to produce master artwork up to 18″ x 24″. Wide assortment of 1/10″ grid graph paper and drafting film; mechanical negatives; pressure-sensitive conductor strips and termination circles in wide range of widths and diameters; letters and numerals in assorted sizes; opaquing fluid and brush; assorted art craft tools and full instructions.

Kepro No. PL-200A Master Photo Layout Kit—Net..**$45.00**

Kepro No. PL-2A Basic Photo Layout Kit—Includes two 8″ x 10″ sheets of 1/10″ grid graph paper; one 8″ x 10″ acetate sheet; one 8″ x 10″ mechanical negative; assorted pressure-sensitive conductor strips; termination circles; letters and numerals. Net Each.....**$5.15**

NAMEPLATE AND PANEL KITS (FIG. E AND F)

Easy-to-use kits let you produce professional-quality aluminum nameplates for custom applications. Photosensitized aluminum panels can be processed without a darkroom. Kits include clear acetate sheets and pressure-sensitive opaque letters and numbers in three fonts, photo-sensitized panels, chemicals, accessories and instructions.

Kepro No. NP-303A Enamel Nameplate and Panel Kit (Fig. E)—Will produce 160 sq. in. of attractive blue panels with sharp, clear aluminum characters. Net Each.....**$9.45**

Kepro No. NP-404 Anodized Nameplate and Panel Kit (Fig. F)—Includes materials for 54 sq. in. of professional-looking black anodized aluminum panels, with detailed aluminum characters. Net Each.....**$8.50**

SILK SCREEN PRINTING KIT (NOT ILLUS.)

Professional materials and equipment for producing lacquer-resistant film type photo stencils with print areas up to 7″ x 9″, and for printing production quantities of circuit boards. Kit includes: 10″ x 12″ wood frame with stretched silk, two extra silks, three 8″ x 10″ stencil films, exposure lamp, thermometer, squeegee, black-and-white inks, developer, tray, block-out medium, comprehensive instructions.

Kepro No. SC-601-A Silk Screen Kit—Net Each.....**$45.50**

PHOTO REVERSING KIT (NOT ILLUS.)

Offers easy 2-step method for making negatives or positives from artwork, or reversing existing negatives and positives. No darkroom, trays or fixing needed. Kit includes two sheets 10″ x 24″ reversing film, developer, accessories, instructions.

Kepro No. FK-701 Photo Reversing Kit—Net Each.....**$9.35**

EXTRA KIT MATERIALS AND SUPPLIES

For photo layout, photo reversing, and nameplate kits listed above.

Kepro Number	Description	Quantity	For Kit	Net Each
MN-1212	Mechanical negative, 12″ x 12″	1	Layout	$2.75
MS-3	Stable base drafting film, 18″ x 24″	1	Layout	5.05
AT-810	Pressure-sensitive opaque letters, numerals in 3 sizes	4 fonts	Layout	3.50
TC-125-031	Pressure-sensitive 1/8″ O.D. termination circles, on card	112	Layout	.70
TC-250-062	Pressure-sensitive 1/4″ O.D. termination circles, on card	96	Layout	.70
NP-EP1220	Sensitized blue enamel nameplate material, 12″ x 20″	1	NP-303A	7.00
NP-SA1212	Sensitized anodized nameplate material, 12″ x 12″	1	NP-404	6.95
NPD-1QT	Enamel nameplate developer	1 pt.	NP-303A	3.75
D-1QT	Anodized nameplate developer	1 pt.	NP-404	4.40
NP-E-1PT	Anodized nameplate etching powder	6 oz.	NP-404	2.60
RF-1024	Photo reversing film, 10″ x 24″	1	FK-701	4.00
RFD-1QT	Reversing film developer	1 pt.	FK-701	3.75

ETCHED CIRCUIT PROCESSING CHEMICALS

Kepro No.	Description	Quantity	Net Each
D-1QT	Developing solution	1 qt.	$4.40
D-1G	Developing solution	1 gal.	9.90
E-1QT	Etching solution	1 qt.	3.45
E-1G	Etching solution	1 gal.	5.65
EP-1G	Etching powder	1 gal.	4.50
EP-5G	Etching powder	5 gal.	11.75
RMP-700A	Resist marking pen	1	1.25

NEW IMPROVED IMMERSION TIN-PLATING KIT

Five minutes immersion in electroless tin solution deposits an essentially pure tin plating .00002″ thick on oxide-free copper surface of etched PC board. Improves solderability; prevents oxidation. Kit includes thermometer, heat-resistant tray (for heating solution to 150° F approx.), plastic handling tong (for panels 1″–7″ wide) and solution to plate about 25 sq. ft. of etched circuit boards. Use a range-top burner or electric plate as heat source.

Kepro Model ITP-801 Tin-Plating Kit—Net Each.....**$15.35**

Kepro Model ITP-1QT Solution—1 quart of tin-plating solution replacement. Net Each.....**$ 9.25**

Kepro Model ITP-1G—Same, 1 gallon. Net Each.....**28.95**

Etched Circuit Boards, Tools

ETCHED CIRCUIT TOOLS AND HARDWARE

"MULTI-6" 12" SHEAR

Bench-top, hand-operated tool cuts all types copper clad PC boards 12" wide, and up to 3/32" thick; or, sheet metal to 1/16" thick. Converts to other job functions with accessory tooling, below. Cast aluminum frame and hardened tool steel shearing blade; supplied with precision machined, side squaring gauge and adjustable, back length gauge for accurate shearing. Base, 15" wide x 13" deep.

Kepro Model MS-6 Shear—Net Each.....**$158.00**

ACCESSORIES

Kepro Model PH-6 Pilot Hole Punch Set—Punches two .125" holes in any of 6 locations. Net Each.....**$157.00**

Kepro Model PS-2 2-Hole Punch Set—Punches 2 randomly located .125" holes on a single axis. Net Each.....**$49.00**

Kepro Model NA-1 Notching Attachment—For corner notches up to 1" x 1" in material up to 1/16" thick. Net Each.....**$53.00**

Kepro Model DA-1 Drilling Attachment—1/5-hp motor with "0" chuck; 10,000 rpm; for carbide or twist drills. Net...**$69.00**

Kepro Model PB-1 Press Brake Attachment—Makes 90° bends in soft aluminum up to 18 ga. or sheet steel up to 22 ga. Net.**$47.00**

CONTROL WITHDRAWAL DIP COATER

Photo-sensitive resists for pattern masking can be uniformly coated on copper clads or other flat sheet materials at speeds of up to 12" per minute. Panels are supported vertically from the top edge and submerged into either of the two 13" x 13" x 1" stainless steel resist coating tanks, then smoothly withdrawn at a preset rate with a variable speed motor. Two 3½ quart stainless steel tanks; rugged stainless steel and polypropylene construction. Size, 14½" w. x 19" d. x 24" h. Weight, 60 lbs.

Kepro Model BTC-101 Dip Coater—Net Each.....**$485.00**

CONTROLLED TIME SPRAY DEVELOPER

Designed to spray develop exposed photosensitive coatings requiring either solvent or alkali based chemistry. Developing cycles of 1 to 1½ minutes are controlled with a 5 minute electrical timer activating the spray pumps. Panels are supported in vertical fashion inside the developing chamber and sprayed from both sides. Includes 4 gallon tank, drain tube. Size, 14¼" w. x 22" d. x 20" h. Weight, 72 lbs.

Kepro Model BTD-201 Spray Developer—Net Each..**$425.00**

RAPID CURE INFRA-RED OVEN

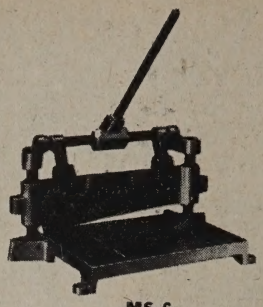
For fast cure of wet photo-resist and protective coating. Panels are inserted vertically into the top opening of the oven. Two inch glass mat insulation to maintain cool exterior of the oven. Stainless steel and polypropylene materials are used for outer covers. Size, 17" w. x 22" d. x 20" h. Weight, 45 lbs.

Kepro Model BTO-102 Infra-Red Oven—Net Each..**$340.00**

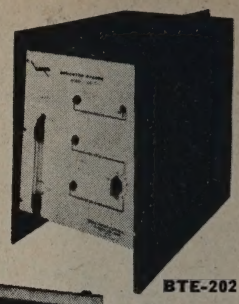
ULTRA-VIOLET EXPOSURE FRAME

Allows exposure of photosensitive coatings in less than 2 minutes. Pin registry rail for easy 2 side pattern registration. Kepro pre-piloted copper clad, or hole patterns punched with Kepro PH-6 shear attachment, match this pin rail. Size, 14" w. x 19" d. x 5" h. Weight, 30 lbs.

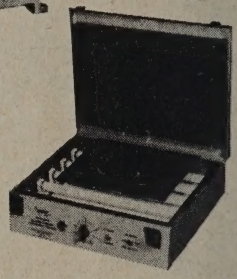
Kepro Model BTX-200 Exposure Frame—Net Each..**$255.00**



MS-6



BTE-202



BTX-200

DOUBLE SIDE SPRAY ETCHER

For etching PC boards, nameplates, etc. Chemical resistant construction. Lift-out rack adapts to hold rigid panels up to 12" x 12" and thin flexible materials. Chemical chamber easily emptied or loaded; 4-gallon capacity; liquid drain hose provided. Titanium heater and 2 pumps. Power required, 15 amps, 115 VAC, 60 Hz. Size, 14½" w. x 22" d. x 20" h. Weight, 60 lbs.

Kepro Model BTE-202 Spray Etcher—Net Each.....**$465.00**

BENCH-TOP SPRAY WATER RINSE UNIT

Companion to Model BTE-202. Provides thorough spray rinsing of both sides without removal of materials from etch handling rack. Convertible to re-circulating rinse. With drain and water input hoses.

Kepro Model BTR-203—Net Each.....**$155.00**

HIGH SPEED WATER DRYER

Complete water removal from surfaces and holes in wet panels up to 12" x 15" in size is accomplished in 10 seconds.

Kepro Model BWD-204 Water Dryer—Net Each.....**$355.00**

COPPER CLAD ETCHED CIRCUIT BOARDS

High quality 1/16" laminated copper clad circuit boards meet standard NEMA grade tolerances (polyester boards equal or exceed NEMA tolerances). Available with copper foil on one or two sides; unsensitized for screen process applications, or photosensitized for photo-processed boards. Sensitized boards are packaged in light-proof enclosures, and are ready for exposure; no other sensitizing needed.

Prefix P (e.g., **P2-1212G**) indicates plain (unsensitized) boards; **prefix S** for photosensitized boards. Number following the prefix, **P** or **S**, indicates number of copper clad sides—one or both; e.g., **P1-36: 1** side copper clad plain board and **S2-36: 2** sides copper clad sensitized board.

XXXP PAPER BASE PHENOLIC BOARDS

Laminated 1/16" boards, 1-oz. copper clad on one or two sides. Unsensitized or photosensitized.

Size, Inches	Kepro Number	Net Each	Net per Pkg. of 5*, Lots of 1-5	6-10	11-15	16-20
3 x 3	P1-33	$ 0.54	$ 1.45	$ 1.20	$ 1.00	$ 0.90
3 x 6	P1-36	.87	2.90	2.45	1.95	1.80
12 x 12	P1-1212	5.08	20.75	17.30	13.80	12.65
12 x 12	P2-1212	6.52	27.20	22.70	18.15	16.65
3 x 6	S1-36	1.32	4.95	4.10	3.30	3.00
6 x 6	S1-66	2.50	9.90	8.25	6.60	6.05
7 x 10	S1-710	4.38	17.95	14.95	11.95	10.95
12 x 12	S1-1212	8.25	35.00	29.15	23.35	21.40
3 x 6	S2-36	1.86	7.35	6.15	4.90	4.50
6 x 6	S2-66	3.58	14.75	12.30	9.85	9.00
12 x 12	S2-1212	12.13	52.50	43.75	35.00	32.10

*To order, add 5 to Kepro number (e.g., P1-335). †Perforated on 2/10 grid, .040" dia. holes.

POLYESTER LAMINATE CIRCUIT BOARDS

Polyester laminate boards, 1/16" thick overall; 1-oz. copper clad on one or both sides. Electrical characteristics exceed G-10 glass epoxy boards; mechanical characteristics approach those of G-10. Available unsensitized for silk screen processing, etc.; or photo-sensitized for photo-processing.

Kepro Number	Size, Inches	Type	Copper Clad on	Wt., Oz.	Net Each
P1-36M	3 x 6	Unsensitized	1 side	3⅛	$1.10
P1-1212M	12 x 12	Unsensitized	1 side	10¾	6.81
P2-36M	3 x 6	Unsensitized	2 sides	3⅛	1.30
P2-1212M	12 x 12	Unsensitized	2 sides	11½	8.10
S1-36M	3 x 6	Sensitized	1 side	3⅛	1.55
S1-66M	6 x 6	Sensitized	1 side	4½	9.97
S1-1212M	12 x 12	Sensitized	1 side	10¾	2.13
S2-36M	3 x 6	Sensitized	2 sides	3⅛	14.01
S2-1212M	12 x 12	Sensitized	2 sides	11½	

1 OZ. COPPER CLAD G-10 GLASS EPOXY BOARDS

Glass epoxy boards, 1/16" thick, 1 oz. copper clad on one or both sides. Available unsensitized or photosensitized.

Size, Inches	Kepro Number	Net Each	Net per Pkg. of 5*, Lots of 1-5	6-10	11-15	16-20
3 x 6	P1-36G	$ 1.46	$ 5.60	$ 4.65	$ 3.75	$ 3.40
12 x 12	P1-1212G	9.25	39.55	32.95	26.35	24.15
3 x 6	P2-36G	1.46	5.60	4.65	3.75	3.40
12 x 12	P2-1212G	9.25	39.55	32.95	26.35	24.15
3 x 6	S1-36G	1.96	7.95	6.60	5.30	4.85
6 x 6	S1-66G	3.83	15.90	13.25	10.60	9.70
7 x 10	S1-710G	6.83	29.00	24.15	19.30	17.70
12 x 12	S1-1212G	12.99	56.40	47.00	37.60	34.45
3 x 6	S2-36G	2.33	9.50	7.90	6.30	5.80
6 x 6	S2-66G	4.51	18.95	15.80	12.65	11.60
12 x 12	S2-1212G	15.44	67.40	56.15	44.95	41.20

*To order, add 5 to Kepro number (e.g., P2-12125G).

2 OZ. COPPER CLAD G-10 GLASS EPOXY BOARDS

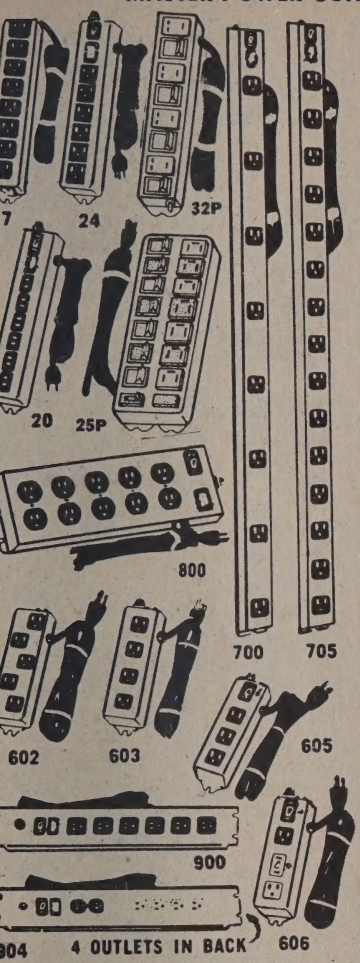
Glass epoxy boards, 1/16" thick, 2 oz. copper clad on one or both sides. Available unsensitized or photosensitized.

Size, Inches	Kepro Number	Net Each	Net per Pkg. of 5*, Lots of 1-5	6-10	11-15	16-20
3 x 6	P12-36G	$ 1.48	$ 5.65	$ 4.75	$ 3.80	$ 3.45
4 x 6	P12-46G	1.90	7.55	6.30	5.05	4.60
7 x 10	P12-710G	5.01	20.80	17.35	13.85	12.70
12 x 12	P12-1212G	9.40	40.20	33.50	26.80	24.55
3 x 3	P22-33G	.95	3.30	2.75	2.20	2.00
4 x 6	P22-46G	2.16	8.75	7.30	5.85	5.35
12 x 12	P22-1212G	10.84	46.65	38.90	31.10	28.50
3 x 3	S12-33G	1.12	4.05	3.40	2.70	2.50
4 x 6	S12-46G	2.62	10.80	9.00	7.20	6.60
12 x 12	S12-1212G	13.29	57.65	48.05	38.45	35.25
3 x 6	S22-36G	2.60	10.70	8.90	7.15	6.55
6 x 6	S22-66G	5.06	21.40	17.80	14.25	13.05
7 x 10	S22-710G	9.07	39.05	32.55	26.05	23.85

*To order, add 5 to Kepro number (e.g., P22-12125G).

SGL WABER Electric Outlet Strips

MASTER POWER CONTROLS FOR INDUSTRY, LABORATORY OR SERVICE SHOP



All Waber outlet strips are completely wired for instant use. UL Listed snap-in components, fuses, circuit breakers, 15 A 3-wire or HPN 2-wire cord sets. Seamless drawn steel case; gray finish. Size, 2⅜" w. x 13⅛" lg. x 1½" h. Mounting centers on 12¾". Shipping Weight: 2 lbs. (6-ft. cord-set); 3 lbs. (15-ft. cord-set).

INLINE OUTLET STRIPS

Extra outlet on end for series-string wiring. Model 15 has control unit with 7 "U" ground outlets, switch and pilot light; Model 17 slave unit with 9 "U" ground outlets only. Model 18 may also be used as a slave unit; 9 "U" ground outlets (no outlet on end).

Waber Model	Type	Cord Lgth.	Net Each
15	Fuse	6 ft.	$15.65
15-15	Fuse	15 ft.	17.75
15CB	Circuit breaker	6 ft.	17.75
15CB-15	Circuit breaker	15 ft.	19.85
17	Outlets only	6 ft.	12.80
17-15	Outlets only	15 ft.	14.90
18	Outlets only	6 ft.	12.15
18-15	Outlets only	15 ft.	14.25

TWO-WIRE OUTLET STRIPS

Model 20 has six outlets, pilot light and switch; Model 30, four color-coded outlet and switch sets.

Waber Model	Type	Cord Lgth.	Net Each
20	Fuse	10 ft.	$11.45
20CB	Circuit breaker	10 ft.	13.55
30	Fuse	10 ft.	13.50
30CB	Circuit breaker	10 ft.	15.60

"U" GROUND OUTLET STRIPS

Model 24 has 6 outlets controlled by on-off switch and pilot light. Model 24M is the same except features an illuminated 0–150 VAC voltmeter. Model 32P features 4 alternating black and white combination switch-pilot lights. All models are 3-wire "U" grounded electrically and mechanically.

Waber Model	Type	Cord Lgth.	Net Each
24	Fuse	6 ft.	$14.80
24-15	Fuse	15 ft.	16.90
24CB	Circuit breaker	6 ft.	16.90
24CB-15	Circuit breaker	15 ft.	19.00
24M	Fuse	6 ft.	19.35
24M-15	Fuse	15 ft.	21.45
24MCB	Circuit breaker	6 ft.	21.45
24MCB-15	Circuit breaker	15 ft.	23.55
32P	Fuse	6 ft.	19.35
32P-15	Fuse	15 ft.	21.45
32PCB	Circuit breaker	6 ft.	21.45
32PCB-15	Circuit breaker	15 ft.	23.55

DELUXE OUTLET STRIPS

Features individual switching flexibility. Provides 7 color-coded switch-outlet groups, master on-off switch with pilot light. Individual switches include built-in pilot lights. "U" ground cord-set.

Waber Model	Type	Cord Lgth.	Net Each
25P	Fuse	6 ft.	$32.60
25P-15	Fuse	15 ft.	34.70
25PCB	Circuit breaker	6 ft.	34.70
25PCB-15	Circuit breaker	15 ft.	36.80

600 SERIES COMPACT "U" GROUND OUTLET STRIPS

Rugged compact design with quality U-ground outlets for schools, labs and industry. Units are electrically and mechanically grounded. UL Listed cord-set rated 15 A at 130 V continuous duty. Seamless steel case; gray finish. Snap-in components, fuses, push-to-reset circuit breakers are UL Listed. Size, 8⅝" x 2⅜" x 1½". Mounting centers on 8¼". All models except Model 602 available with fuse or push-to-reset circuit breaker. Model 602, 5 outlets. Model 604, 4 outlets, fuse or circuit breaker. Model 605, 3 outlets, pilot light, on-off switch, fuse or circuit breaker. Model 660, 2 color-coded sets of switch, pilot light and outlet, fuse or circuit breaker. Model 608, pilot light, on-off switch, fuse or circuit breaker and 4 outlets, one on end and cord-set out the side; convenient for series-string wiring.

Waber Model	Type	Cord Lgth.	Net Each
602	Outlets only	6 ft.	$ 8.45
602-15	Outlets only	15 ft.	10.55
603	Fuse	6 ft.	9.45
603-15	Fuse	15 ft.	11.55
603CB	Circuit breaker	6 ft.	11.55
603CB-15	Circuit breaker	15 ft.	13.65
605	Fuse	6 ft.	10.55
605-15	Fuse	15 ft.	12.65
605CB	Circuit breaker	6 ft.	12.65
605CB-15	Circuit breaker	15 ft.	14.70
606	Fuse	6 ft.	11.25
606-15	Fuse	15 ft.	13.35
606CB	Circuit breaker	6 ft.	13.35
606CB-15	Circuit breaker	15 ft.	15.40
608	Fuse	6 ft.	11.80
608-15	Fuse	15 ft.	13.85
608CB	Circuit breaker	6 ft.	13.85
608CB-15	Circuit breaker	15 ft.	15.95

POPULAR HOME-OFFICE OUTLET STRIPS

Ideal for home or office; skin-packed for pegboard display.

Waber Model 11—Sturdy chrome case has 6 heavy-duty outlets, on-off master switch and pilot light. Ideal for home workshop. Positive circuit breaker protection. Net Each..... **$13.80**

Waber Model 12—Has 4 individually switched, heavy-duty outlets, color-coded for easy identification. Positive circuit breaker protection Net Each... **$14.25**

Waber Model 601U—Chrome beauty with 3 U-ground outlets in sturdy steel case; on-off master switch and pilot light. Push-to-reset circuit breaker. Net Ea.. **$14.55**

HEAVY-DUTY OUTLET STRIPS

Cord-set and component parts UL Listed. Seamless steel case with gray finish; convenient mounting ears. Prewired for instant use. Rated 15 A at 130 VAC.

"U" GROUND TWO-FOOT STRIPS

Convenient two-foot outlet strips ideal for racks, benches and set-ups. Size, 24" w. x 2" d. x 1½" h. Mounting centers, 23¾". Shpg. Wt.: 6-ft. cord-set units, 4 lbs.; others, 5 lbs. Model 764 has four "U" ground duplexes (eight outlets), neon pilot light, on-off switch, fuse or circuit breaker protection. Model 770 has outlets only.

Waber Model	Type	Cord Lgth.	Net Each
764	Fuse	6 ft.	$22.70
764-15	Fuse	15 ft.	24.80
764CB	Circuit breaker	6 ft.	24.80
764CB-15	Circuit breaker	15 ft.	26.90
770	Outlets only	6 ft.	19.30
770-15	Outlets only	15 ft.	21.40

"U" GROUND FOUR-FOOT STRIPS

Model 700 has 8 "U" ground outlets, on-off switch and pilot light; Model 705, same but 15 "U" ground outlets; Model 707, same but 7 "U" ground duplexes (14 outlets). Model 710 has 8 "U" ground outlets only; Model 711 has 7 "U" ground duplexes (14 outlets) only; Model 715 has 15 "U" ground outlets only. Size, 49" w. x 2" d. x 1½" h. Shpg. Wt., 6-foot cord-set units, 6 lbs.; all others, 7 lbs.

Waber Model	Type	Cord Lgth.	Net Each
700	Fuse	6 ft.	$26.60
700-15	Fuse	15 ft.	28.65
700CB	Circuit breaker	6 ft.	28.65
700CB-15	Circuit breaker	15 ft.	30.75
705	Fuse	6 ft.	33.95
705-15	Fuse	15 ft.	36.05
700CB	Circuit breaker	6 ft.	28.65
705CB-15	Circuit breaker	15 ft.	38.15
707	Fuse	6 ft.	27.30
707-15	Fuse	15 ft.	29.35
707CB	Circuit breaker	6 ft.	29.35
707CB-15	Circuit breaker	15 ft.	31.45
710	Outlets only	6 ft.	23.10
710-15	Outlets only	15 ft.	25.20
711	Outlets only	6 ft.	23.80
711-15	Outlets only	15 ft.	25.90
715	Outlets only	6 ft.	30.30
715-15	Outlets only	15 ft.	32.40

"U" GROUND RACK MOUNT TYPE

Pre-wired, ready-to-use, master power controls provide quick and easy power source for standard relay racks. Choose from a variety of configurations with outlets on the outside, inside, or combinations of both. All have six outlets, pilot light switch. Outlets front-mounted, except Model 904 which has 2 in front, 4 in back. Model 911 has six outlets in back. Deluxe Model 914 has 6 color-coded combination switch-pilot lights to provide individual controls for 6 outlets on the back. Master switch and pilot light control entire unit. UL Listed cord-set, snap-in components, fuses and circuit breakers. Steel panel, gray finish. Rated 15 amps, 130 volts. Size: Models 903 and 911, 19" w. x 1¾" d.; others, 19" w. x 3½" d. Shpg. Wt., 3 lbs. for 6-ft. cord units; 4 lbs. for 15-ft. cord units.

Waber Model	Type	Cord Lgth.	Net Each
900	Fuse	6 ft.	$21.10
900-15	Fuse	15 ft.	23.15
900CB	Circuit breaker	6 ft.	23.15
900CB-15	Circuit breaker	15 ft.	25.25
903	Fuse	6 ft.	20.25
903-15	Fuse	15 ft.	22.30
903CB	Circuit breaker	6 ft.	22.30
903CB-15	Circuit breaker	15 ft.	24.40
904	Fuse	6 ft.	20.15
904-15	Fuse	15 ft.	22.25
904CB	Circuit breaker	6 ft.	22.25
904CB-15	Circuit breaker	15 ft.	24.35
911	Fuse	6 ft.	20.05
911-15	Fuse	15 ft.	22.15
911CB	Circuit breaker	6 ft.	22.15
911CB-15	Circuit breaker	15 ft.	24.25
914	Fuse	6 ft.	35.50
914-15	Fuse	15 ft.	37.60
914CB	Circuit breaker	6 ft.	37.60
914CB-15	Circuit breaker	15 ft.	39.70

Dust and Safety Covers—For above models with exposed backs.
Type DC-1—For 904 Series. Net... **$7.15**
Type DC-5—For 900 Series. Net... **7.15**
Type DC-11—For 903 Series. Net.. **7.15**

SGL WABER Electric Outlet Strips

MASTER POWER CONTROLS FOR INDUSTRY, LABORATORY OR SERVICE SHOP

SPACE-SAVING OUTLET STRIPS

Narrow profile, four and six-foot outlet strips offer valuable space-saving features. All have "U" ground outlets. Model 1142 has 7 outlets with fuse or circuit breaker protection. Model 1143, same but 13 outlets. Model 1162, same but 10 outlets. Model 1163, same but 20 outlets. Model 1144 has 6 outlets, "on-off" combination switch-pilot light, fuse or circuit breaker. Model 1164, same but 9 outlets. Model 1145 has 12 outlets, master combination switch-pilot light, fuse or circuit breaker. Model 1165, same but 19 outlets. Model 1146 has 8 outlets, each controlled by its own switch-pilot light, master "on-off" combination switch-pilot light, fuse or circuit breaker. Model 1166, same but 12 outlets. Models 1140, 1141, 1160 and 1161 have ground outlets only with 7, 13, 10 and 20 outlets respectively. Rated at 15 amps, 130 volts continuous duty. Size: Series 1140, 49" w. x 1½" d. x 1⅛" h.; series 1160, 73" w. x 1½" d. x 1⅛" h. UL Listed cord-set, snap-in components, fuses and circuit breakers.

Waber Model	Type	Cord Lgth.	Net Each
1140	Outlets only	6 ft.	$16.20
1140-15	Outlets only	15 ft.	18.30
1141	Outlets only	6 ft.	23.80
1141-15	Outlets only	15 ft.	25.90
1142	Fuse	6 ft.	18.05
1142-15	Fuse	15 ft.	20.15
1142CB	Circuit breaker	6 ft.	20.15
1142CB-15	Circuit breaker	15 ft.	22.25
1143	Fuse	6 ft.	25.20
1143-15	Fuse	15 ft.	27.30
1143CB	Circuit breaker	6 ft.	27.30
1143CB-15	Circuit breaker	15 ft.	29.35
1144	Fuse	6 ft.	19.30
1144-15	Fuse	15 ft.	21.40
1144CB	Circuit breaker	6 ft.	21.40
1144CB-15	Circuit breaker	15 ft.	23.50
1145	Fuse	6 ft.	26.45
1145-15	Fuse	15 ft.	28.50
1145CB	Circuit breaker	6 ft.	28.50
1145CB-15	Circuit breaker	15 ft.	30.60
1146	Fuse	6 ft.	42.70
1146-15	Fuse	15 ft.	44.80
1146CB	Circuit breaker	6 ft.	44.80
1146CB-15	Circuit breaker	15 ft.	46.90
1160	Outlets only	6 ft.	21.95
1160-15	Outlets only	15 ft.	24.00
1161	Outlets only	6 ft.	34.25
1161-15	Outlets only	15 ft.	36.35
1162	Fuse	6 ft.	23.50
1162-15	Fuse	15 ft.	25.55
1162CB	Circuit breaker	6 ft.	25.55
1162CB-15	Circuit breaker	15 ft.	27.65
1163	Fuse	6 ft.	35.80
1163-15	Fuse	15 ft.	37.90
1163CB	Circuit breaker	6 ft.	37.90
1163CB-15	Circuit breaker	15 ft.	40.00
1164	Fuse	6 ft.	24.80
1164-15	Fuse	15 ft.	26.90
1164CB	Circuit breaker	6 ft.	26.90
1164CB-15	Circuit breaker	15 ft.	29.00
1165	Fuse	6 ft.	37.10
1165-15	Fuse	15 ft.	39.20
1165CB	Circuit breaker	6 ft.	39.20
1165CB-15	Circuit breaker	15 ft.	41.30
1166	Fuse	6 ft.	58.75
1166-15	Fuse	15 ft.	60.85
1166CB	Circuit breaker	6 ft.	60.85
1166CB-15	Circuit breaker	15 ft.	62.95

DELUXE OUTLET STRIP FOR LAB OR DESK TOP

Available in three models, 4, 6 or 8 "U" ground outlets, each controlled by its own switch and pilot light. Handsome metal panel finished in wood-grained vinyl, black aluminum base. Rated at 15 amps, 130 volts. HSJ cord-set UL Approved. Snap-in components, fuses, circuit breakers, UL Listed. Shpg. Wt.: 6 ft. cord-set units, 3½ lbs.; others, 4½ lbs. Model 95 has 4 outlets; size, 7½" w. Model 96 has 6 outlets; size, 9¼" w. Model 97 has 8 outlets; size, 11" w. All models, 2¾" d. x 2¾" h.

95	Fuse	6 ft.	$21.95
95-15	Fuse	15 ft.	24.00
95CB	Circuit breaker	6 ft.	24.00
95CB-15	Circuit breaker	15 ft.	26.10
96	Fuse	6 ft.	27.60
96-15	Fuse	15 ft.	29.70
96CB	Circuit breaker	6 ft.	29.70
96CB-15	Circuit breaker	15 ft.	31.75
97	Fuse	6 ft.	33.15
97-15	Fuse	15 ft.	35.25
97CB	Circuit breaker	6 ft.	35.25
97CB-15	Circuit breaker	15 ft.	37.75

MASTER UNITS AND SLAVE MODELS FOR COMBINATION POWER STRIP LINES

Lets you combine a variety of slave models to any master unit to give you the number of outlets you need. Slave models plug into Master units to make any desired length. Highly flexible, can be spaced out with extension cords. Completely wired, ready to plug in. Sturdy steel construction, gray finish. Rated 15 amps, 130 volts. Master unit size, 12¾" w. x 1 1⅛" d. x 1½" h. with 12⅜" mounting centers. Model 1500 has 2 "U" ground outlets, on-off switch, pilot light. Models 1501 and 1502 have 3 "U" ground outlets. All models have female through connectors. Component parts and cord sets UL Approved.

MASTER UNITS

Waber Model	Type	Cord Lgth.	Net Each
1500	Fuse	6 ft.	$14.10
1500-15	Fuse	15 ft.	16.20
1500CB	Circuit breaker	6 ft.	16.20
1500CB-15	Circuit breaker	15 ft.	18.30
1501	Fuse	6 ft.	12.65
1501-15	Fuse	15 ft.	14.70
1501CB	Circuit breaker	6 ft.	14.70
1501CB-15	Circuit breaker	15 ft.	16.80
1502	Outlets only	6 ft.	10.75
1502-15	Outlets only	15 ft.	12.85

SLAVE MODELS

Slave units have male connector on one end and standard "U" ground female connector on other end. Units can be plugged one into the other, or space with extension cords. Model 1513 has four "U" ground outlets; Model 1520, 6 outlets; Model 1521, 11 outlets; Model 1522, 10 outlets, duplex type. Size: Model 1513, 12¾" w. x 1 1⅛" d. x 1½" h.; other models, 24¾" w. x 1 1⅛" d. x 1½" h.

Model 1513—Net Each..... **$10.30**
Model 1520—Net Each..... **13.15**
Model 1521—Net Each..... **16.35**
Model 1522—Net Each..... **16.25**

OUTLET STRIPS EQUIPPED WITH 12-HOUR TIMER CONTROL

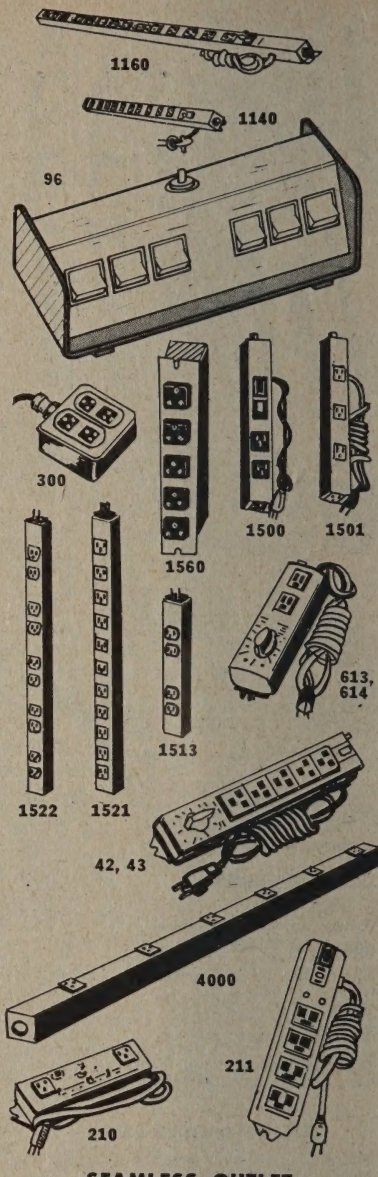
Compact units with reliable 12-hour timer control. Model 613 turns power off at end of preset interval. Model 614 turns power on. Both models have 2 timed outlets, HSJ cord sets. Size: 8⅝" w. x 2⅜" d. x 1½" h. Mounting centers, 8¼". Models 42 and 43 have 5 "U" ground outlets, neon pilot light, HSJ cord sets. Model 42 turns power off, Model 43 turns power on. Size: 13⅛" w. x 2⅜" d. x 1½" h. Mtg. centers, 12¾".

613	Fuse	6 ft.	$23.15
613-15	Fuse	15 ft.	25.25
613CB	Circuit breaker	6 ft.	25.25
613CB-15	Circuit breaker	15 ft.	27.35
614	Fuse	6 ft.	23.15
614-15	Fuse	15 ft.	25.25
614CB	Circuit breaker	6 ft.	25.25
614CB-15	Circuit breaker	15 ft.	27.35
42	Fuse	6 ft.	29.70
42-15	Fuse	15 ft.	31.75
42CB	Circuit breaker	6 ft.	31.75
42CB-15	Circuit breaker	15 ft.	33.85
43	Fuse	6 ft.	29.70
43-15	Fuse	15 ft.	31.75
43CB	Circuit breaker	6 ft.	31.75
43CB-15	Circuit breaker	15 ft.	33.85

RECESS OUTLET STRIP FOR "BUILT-IN" CONVENIENCE

Designed to be recessed into desks, counters, cabinets. A convenient power source for hi-fi installations, audio visual field, teaching-aid equipment. Has 5 "U" ground outlets, surface mounted, and electrically grounded. Rated 15 amps, 130 volts. HSJ cord set UL Approved. Size: 10" w. x 1½" d. x 1½" h. Mounting hole, 9½" w. x 1 1/32" d. Shipping Weight: Model 1560, with 6 ft. cord, 2 lbs., Model 1560-15, with 15 ft. cord, 3 lbs.

Model 1560—Net Each..... **$13.35**
Model 1560-15—Net Each..... **15.40**



SEAMLESS OUTLET BOX FOR CHEMICAL LABS

Seamless casting prevents seepage. UL Approved cord set. Rated 14 amps, 130 V continuous duty.

Model 300—6 ft. cord-set. Net.. **$23.15**
Model 300-15—15 ft. cord-set.... **25.25**

STUDIO PHOTOGRAPHER'S PHOTOFLOOD SWITCHES

Conserves photofloods, lets them last longer. Reduces heat problem. Flick switch to "low" when positioning and focusing subject. When you're ready to shoot, flick switch to "high" and lights come on at maximum brilliance. Includes cord and plug set. Model 210 controls two photoflood bulbs of the same type. Up to 1650 watts, total. Model 211 controls up to four bulbs of any type. Up to 1650 watts, total.

Model 210—Net Each..... **$10.75**
Model 211—Net Each..... **17.45**

WABER REPLACEMENT PARTS AND ELECTRICAL ACCESSORIES INCLUDING SNAP-IN OUTLETS, PLUGS, SWITCHES, PILOT LIGHTS, EDGEWISE READING AC VOLTMETER KITS, CIRCUIT BREAKERS, 2 WIRE TO 3 WIRE ADAPTERS, FUSE POSTS, EXTENSION CORDS AND CORD SETS AVAILABLE. WRITE FOR DETAILS AND PRICES.

K-1250A

K-7900

KSP-700

KCVS-500A

KHF-1250

KD-900

KN-1751ABS

KN-7900

KNS-701

KN-501

KPN-700

KBS-500B-10

PK-70B

PKD-100B-10

PKB-90B

MACHINED ALUMINUM KNOBS FOR INDUSTRIAL APPLICATIONS

Modern, decorative knobs of machined aluminum for industrial applications. One-piece construction and superior styling at moderate prices. For ⅛" and ¼" shafts.

Alco No.	Dia., Inches	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
K-500A-⅛	½	Natural	$0.90	$0.81	$0.77	$0.72
K-500A-¼	½	Natural	.90	.81	.77	.72
K-500B-⅛	½	Black	.90	.81	.77	.72
K-500B-¼	½	Black	.90	.81	.77	.72
K-500G-⅛	½	Gold	.90	.81	.77	.72
K-500G-¼	½	Gold	.90	.81	.77	.72
K-700A-¼	¾	Natural	1.00	.90	.85	.80
K-700B-¼	¾	Black	1.00	.90	.85	.80
K-700G-¼	¾	Gold	1.00	.90	.85	.80
K-900A-¼	15/16	Natural	1.15	1.04	.98	.92
K-900B-¼	15/16	Black	1.15	1.04	.98	.92
K-900G-¼	15/16	Gold	1.15	1.04	.98	.92
K-1250A-¼	1¼	Natural	1.60	1.44	1.36	1.28
K-1250B-¼	1¼	Black	1.60	1.44	1.36	1.28
K-1250G-¼	1¼	Gold	1.60	1.44	1.36	1.28
K-1251A-¼*	1¼	Natural	1.55	1.40	1.32	1.24
K-1251B-¼*	1¼	Black	1.55	1.40	1.32	1.24
K-1251G-¼*	1¼	Gold	1.55	1.40	1.32	1.24
K-1251AS-¼*†	1¼	Natural	2.20	1.98	1.87	1.76
K-1251BS-¼*†	1¼	Black	2.20	1.98	1.87	1.76

*Less hairline. †Spinner knob.

MACHINED ALUMINUM CONCENTRIC KNOB SETS

Matched knob sets for concentric shaft controls consist of two separate knobs—upper knob for inner control shaft, ⅛" dia., lower knob for outer control shaft, ¼" dia. With four 6-32 set screws.

K-5700A	½ & ¾	Natural	$2.20	$1.98	$1.87	$1.76
K-5700B	½ & ¾	Black	2.20	1.98	1.87	1.76
K-7900A	¾ & 15/16	Natural	2.40	2.16	2.04	1.92
K-7900B	¾ & 15/16	Black	2.40	2.16	2.04	1.92

MINIATURE MACHINED ALUMINUM KNOBS

For miniature switches and controls having ⅛" diameter shaft. Model KC knobs designed for MRA series Alcoswitch, but usable with other components. Model KCVS knobs provide the need for setting a predetermined stop position on controls or rotary switches. Model KCV-500-10 knobs have engraved numerals. Natural aluminum or black.

KC-500A-⅛	½	Natural	$1.35	$1.22	$1.15	$1.08
KC-500B-⅛	½	Black	1.35	1.22	1.15	1.08
KC-500A-10⅛	½	Natural	1.50	1.35	1.28	1.20
KC-500B-10⅛	½	Black	1.50	1.35	1.28	1.20
KCVS-500A-⅛	½	Natural	1.95	1.76	1.66	1.56
KCVS-500B-⅛	½	Black	1.95	1.76	1.66	1.56

ALUMINUM KNOBS FOR HI-FI COMPONENTS

Deluxe knobs improve appearance and operation of quality equipment. Unique saw-cut indicator. For ¼" shafts. Single set screws. Models KHF-1250 supplied with 2 set screws, 6-32, and have 120° spacing.

KHF-500A-¼	½	Natural	$0.85	$0.77	$0.72	$0.68
KHF-500G-¼	½	Gold	.85	.77	.72	.68
KHF-700A-¼	¾	Natural	.95	.86	.81	.76
KHF-700G-¼	¾	Gold	.95	.86	.81	.76
KHF-900A-¼	15/16	Natural	1.05	.95	.89	.84
KHF-900G-¼	15/16	Gold	1.05	.95	.89	.84
KHF-1250A-¼	1¼	Natural	1.45	1.31	1.23	1.16
KHF-1250G-¼	1¼	Gold	1.45	1.31	1.23	1.16

MACHINED ALUMINUM KNOBS WITH SKIRTS

Excellent matching knob group to Alco K Series, above. KS models have solid aluminum skirts. KSP models have clear acrylic plastic skirts. For ⅛" and ¼" shafts. Choice of natural aluminum, or black anodizing.

Alco No.	O.D., Inches Knob	Skirt	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KS-500A-⅛	½	¾	Natural	$1.25	$1.13	$1.06	$1.00
KS-500A-¼	½	¾	Natural	1.25	1.13	1.06	1.00
KS-500B-⅛	½	¾	Black	1.25	1.13	1.06	1.00
KS-500B-¼	½	¾	Black	1.25	1.13	1.06	1.00
KS-700A-¼	¾	1⅛	Natural	1.50	1.35	1.28	1.20
KS-700B-¼	¾	1⅛	Black	1.50	1.35	1.28	1.20
KS-900A-¼	15/16	1 13/32	Natural	1.75	1.58	1.49	1.40
KS-900B-¼	15/16	1 13/32	Black	1.75	1.58	1.49	1.40
KSP-700A-¼	¾	1⅛	Natural	1.35	1.22	1.15	1.08
KSP-700B-¼	¾	1⅛	Black	1.35	1.22	1.15	1.08
KSP-900A-¼	15/16	1 13/32	Natural	1.55	1.40	1.32	1.24
KSP-900B-¼	15/16	1 13/32	Black	1.55	1.40	1.32	1.24

DIAMOND KNURL ALUMINUM KNOBS

Non-slipping diamond knurl knobs have conical top, hairline indicators. Colors in natural anodized aluminum, black or gold finish. For ⅛" or ¼" shafts, as specified.

Alco No.	Dia., In.	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KD-500A-⅛	½	Natural	$1.05	$0.95	$0.89	$0.84
KD-500A-¼	½	Natural	1.05	.95	.89	.84
KD-500B-⅛	½	Black	1.05	.95	.89	.84
KD-500B-¼	½	Black	1.05	.95	.89	.84
KD-500G-⅛	½	Gold	1.05	.95	.89	.84
KD-500G-¼	½	Gold	1.05	.95	.89	.84
KD-700A-¼	¾	Natural	1.10	.99	.94	.88
KD-700B-¼	¾	Black	1.10	.99	.94	.88
KD-700G-¼	¾	Gold	1.10	.99	.94	.88
KD-900A-¼	15/16	Natural	1.30	1.17	1.11	1.04
KD-900B-¼	15/16	Black	1.30	1.17	1.11	1.04
KD-900G-¼	15/16	Gold	1.30	1.17	1.11	1.04
KD-1250A-¼	1¼	Natural	1.75	1.58	1.49	1.40
KD-1250B-¼	1¼	Black	1.75	1.58	1.49	1.40
KD-1250G-¼	1¼	Gold	1.75	1.58	1.49	1.40

STRAIGHT KNURL ALUMINUM KNOBS

Straight knurl machined aluminum knobs with hairline indicators. Choice of solid anodized colors and two-tone models. Models KN-1750 jumbo series have 1¾" dia. size, 1.750" w. x .62" h. Fingertip spinner knob has .512" dia. aluminum disc mounted on top. For ⅛" and ¼" shafts, as specified.

KN-500A-⅛	½	Natural	$1.05	$0.95	$0.89	$0.84
KN-500A-¼	½	Natural	1.05	.95	.89	.84
KN-500B-⅛	½	Black	1.05	.95	.89	.84
KN-500B-¼	½	Black	1.05	.95	.89	.84
KN-700A-¼	¾	Natural	1.10	.99	.94	.88
KN-700B-¼	¾	Black	1.10	.99	.94	.88
KN-900A-¼	15/16	Natural	1.30	1.17	1.11	1.04
KN-900B-¼	15/16	Black	1.30	1.17	1.11	1.04
KN-1250A-¼	1¼	Natural	1.85	1.67	1.57	1.48
KN-1250B-¼	1¼	Black	1.85	1.67	1.57	1.48
KN-1251A-¼	1¼	Natural*	1.80	1.62	1.53	1.44
KN-1251B-¼	1¼	Black*	1.80	1.62	1.53	1.44
KN-1751A-¼	1¾	Natural	2.95	2.66	2.51	2.36
KN-1751B-¼	1¾	Black	2.95	2.66	2.51	2.36
KN-1751AS-¼†	1¾	Natural*	3.35	3.01	2.85	2.68
KN-1751BS-¼†	1¾	Black*	3.35	3.01	2.85	2.68
KN-500AB-⅛	½	Natural, Black‡	1.30	1.17	1.11	1.04
KN-500AB-¼	½	Natural, Black‡	1.30	1.17	1.11	1.04
KN-500BA-⅛	½	Black, Natural§	1.30	1.17	1.11	1.04
KN-500BA-¼	½	Black, Natural§	1.30	1.17	1.11	1.04
KN-700AB-¼	¾	Natural, Black‡	1.40	1.26	1.19	1.12
KN-700BA-¼	¾	Black, Natural§	1.40	1.26	1.19	1.12
KN-900AB-¼	15/16	Natural, Black‡	1.60	1.44	1.36	1.28
KN-900BA-¼	15/16	Black, Natural§	1.60	1.44	1.36	1.28
KN-1250AB-¼	1¼	Natural, Black‡	2.10	1.89	1.79	1.68
KN-1250BA-¼	1¼	Black, Natural§	2.10	1.89	1.79	1.68
KN-1751AB-¼	1¾	Natural, Black‡	3.25	2.93	2.76	2.60
KN-1751BA-¼	1¾	Black, Natural§	3.25	2.93	2.76	2.60
KN-1751ABS-¼†	1¾	Natural, Black*†	3.45	3.11	2.93	2.76
KN-1751BAS-¼†	1¾	Black, Natural*§	3.45	3.11	2.93	2.76

*Less hairline. †Spinner knob. ‡Natural body and black top. §Black body and natural top.

CONCENTRIC KNOBS WITH STRAIGHT KNURL

Straight knurl concentric aluminum knobs for dual shaft controls where space is at a premium when mounting many control knobs. Natural aluminum finish has black indicator line, black finish knob has white indicator line. Diameter top shaft, ⅛", bottom shaft, ¼".

KN-5700A	½, ¾	Natural	$2.30	$2.07	$1.96	$1.84
KN-5700B	½, ¾	Black	2.30	2.07	1.96	1.84
KN-7900A	¾, 15/16	Natural	2.55	2.30	2.17	2.04
KN-7900B	¾, 15/16	Black	2.55	2.30	2.17	2.04

KNURL KNOBS WITH ARROWHEAD POINTER

Straight knurled machined aluminum knobs with engraved arrowhead pointer. Models KNS knobs have an added aluminum skirt. For ¼" and ⅛" shafts. Black anodized body with natural finish top.

KN-501BA-⅛	½	Black, Natural	$1.30	$1.17	$1.11	$1.04
KN-501BA-¼	½	Black, Natural	1.30	1.17	1.11	1.04
KN-701BA-⅛	¾	Black, Natural	1.35	1.22	1.15	1.08
KN-701BA-¼	¾	Black, Natural	1.35	1.22	1.15	1.08
KNS-501BA-⅛*	½	Black, Natural	1.55	1.40	1.32	1.24
KNS-501BA-¼*	½	Black, Natural	1.55	1.40	1.32	1.24
KNS-701BA-⅛*	¾	Black, Natural	1.70	1.53	1.45	1.36
KNS-701BA-¼*	¾	Black, Natural	1.70	1.53	1.45	1.36

SHAFT REDUCERS

Alco No. KR-1—¼" to ⅛" reducer. Net Each..... $0.15
Alco No. KR-2—¼" to 3/16" reducer. Net Each..... .15

ALCO® MACHINED ALUMINUM AND PLASTIC KNOBS

ELECTRONIC PRODUCTS, INC.

ALCOKNOB

PKES-90B

PH-13-16

PK-1100B

PK-1109B

PKC-1111B

PKA-50B

PKAP-70B

PKA-190B

PKG-125B

PKGP-100B

PKGC-690BP

PK-1108B

PKP-194B

PKS-90B-10

PKS-1105B

PFM-80B

KSS-2B

KNURLED ONE-PIECE ALUMINUM POINTER KNOBS

Popular size one-piece aluminum pointer knob mates with KN Series straight knurl knobs. Finished in natural aluminum, or black anodized, or natural body with black top, or black body with natural top. For 1/8" and 1/4" shafts, as specified.

Alco No.	Dia., In.	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KPN-500A-1/8, 1/4	1/2	Natural	$2.60	$2.34	$2.21	$2.08
KPN-500B-1/8, 1/4	1/2	Black	2.60	2.34	2.21	2.08
KPN-700A-1/4	3/4	Natural	2.75	2.48	2.34	2.20
KPN-700B-1/4	3/4	Black	2.75	2.48	2.34	2.20
KPN-700AB-1/4	3/4	Natural, black*	3.10	2.79	2.64	2.48
KPN-700BA-1/4	3/4	Black, natural†	3.10	2.79	2.64	2.48
KPN-900A-1/4	15/16	Natural	3.45	3.11	2.93	2.76
KPN-900B-1/4	15/16	Black	3.45	3.11	2.93	2.76
KPN-900AB-1/4	15/16	Natural, black*	3.70	3.33	3.15	2.96
KPN-900BA-1/4	15/16	Black, natural†	3.70	3.33	3.15	2.96

*Natural body and black top. †Black body and natural top.

ALUMINUM CONTROL KNOBS WITH KNURL

Fills the requirements for most rotary switches having a 1/8" or 1/4" diameter shaft. Shaft hole is much deeper than standard miniature knobs. Models KBS knobs have added skirt with engraved numerals 0–9, with 36° spacing. Anodized finish in black or natural.

KB-500A-1/8, 1/4	1/2	Natural	$1.15	$1.04	$0.98	$0.92
KB-500B-1/8, 1/4	1/2	Black	1.15	1.04	.98	.92
KBS-500A-1/8, 1/4	1/2	Natural*	1.50	1.35	1.28	1.20
KBS-500B-1/8	1/2	Black*	1.50	1.35	1.28	1.20
KBS-500B-1/4	1/2	Black*	1.50	1.35	1.28	1.20
KBS-500A-10 1/8	1/2	Natural*	1.75	1.58	1.49	1.40
KBS-500A-10 1/4	1/2	Natural*	1.75	1.58	1.49	1.40
KBS-500B-10 1/8	1/2	Black*	1.75	1.58	1.49	1.40
KBS-500B-10 1/4	1/2	Black*	1.75	1.58	1.49	1.40

STRAIGHT KNURL PLASTIC KNOBS WITH SKIRTS

Straight knurl knobs with white dot indicators have deep precision serrations in molded black plastic. Spun aluminum inlay in top offers two-tone effect. Has molded-in brass insert bushing, hex-head knurl cup point, self-locking 6–32 set screw. PKD models have aluminum skirts. PKD-10 models have aluminum skirts with 0–10 markings. For 1/4" and 1/8" shafts, as specified.

PK-50B-1/8, 1/4	.748	Black	$0.25	$0.23	$0.21	$0.20
PK-70B-1/4	.984	Black	.30	.27	.26	.24
PK-90B-1/4	1.263	Black	.35	.32	.30	.28
PKD-60B-1/8, 1/4	.800	Black	.50	.45	.43	.40
PKD-70B-1/4	1.020	Black	.55	.50	.47	.44
PKD-100B-1/4	1.290	Black	.60	.54	.51	.48
PKD-60B-10 1/8	.800	Black	.55	.50	.47	.44
PKD-60B-10 1/4	.800	Black	.55	.50	.47	.44
PKD-70B-10 1/4	1.020	Black	.60	.54	.51	.48
PKD-100B-10 1/4	1.290	Black	.65	.59	.56	.52

FLUTED PLASTIC CONTROL KNOBS

Deep fluted plastic control knobs have spun aluminum inlay in top. PKB and PKES models have skirts. PKEC models are concentric sets.

PKB-70B-1/4	1.115	Black	$0.40	$0.36	$0.34	$0.32
PKB-90B-1/4	1.500	Black				
PKE-60B-1/8, 1/4	.626	Black	.60	.54	.51	.48
PKE-60R-1/8	.626	Red	.65	.59	.55	.52
PKE-90B-1/4	.890	Black	.70	.63	.60	.56
PKEC-690B	.894, .626	Black	1.25	1.13	1.06	1.00
PKEC-690BP	.894, .626	Black	1.30	1.17	1.11	1.04
PKEC-9120B	1.291, .882	Black	1.50	1.35	1.28	1.20
PKES-60B-1/8	.740	Black	.60	.54	.51	.48
PKES-60B-1/4	.740	Black	.60	.54	.51	.48
PKES-70B-1/4	.848	Black	.65	.59	.55	.52
PKES-90B-1/4	1.012	Black	.70	.63	.60	.56
PKES-120B-1/4	1.291	Black	.85	.77	.72	.68
PKES-140B-1/4	1.496	Black	1.20	1.08	1.02	.96
PKES-150B-1/4	1.768	Black	1.35	1.22	1.15	1.08

PLASTIC POINTER KNOBS AND CONCENTRIC SETS

Plastic pointer knobs have spun aluminum inlay on top. PKP models have bar pointer. PKC models are concentric sets. Black or red finish. For 1/4" or 1/8" shafts, as specified.

PK-1100B-1/8	.700	Black	$0.35	$0.32	$0.30	$0.28
PK-1100R-1/8	.700	Red	.40	.36	.34	.32
PK-1100B-1/4	.700	Black	.35	.32	.30	.28
PK-1100R-1/4	.700	Red	.40	.36	.34	.32
PKP-1109B-1/4	.875	Black	.55	.50	.47	.44
PKC-1111B	.875, .643	Black	.95	.85	.82	.76
PKC-1111BR	.875, .643	Red top, black bottom	1.00	.90	.85	.80

STRAIGHT KNURL TUNING CONTROL KNOBS

Black plastic straight knurl tuning control knobs have recessed aluminum inlays. For 1/4" diameter shafts.

Alco No.	Diameter, Inches	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PH-15-18-1/4	.989	Black	$0.30	$0.27	$0.26	$0.24
PH-14-17-1/4	1.190	Black	.35	.32	.30	.28
PH-13-16-1/4	1.390	Black	.40	.36	.34	.32

RIBBED KNURL PLASTIC KNOBS WITH SKIRTS AND POINTERS

Slip-proof knurl construction with extended skirts, white indicators. Model PKA-190B is less skirt. Models PKAP have bar pointers. Black finish. For 1/8" and 1/4" diameter shafts, as specified.

PKA-50B-1/8	.787	Black	$0.55	$0.50	$0.47	$0.44
PKA-50B-1/4	.787	Black	.55	.50	.47	.44
PKA-70B-1/4	.984	Black	.65	.59	.55	.52
PKA-90B-1/4	1.370	Black	.80	.72	.68	.64
PKA-190B-1/4	1.886	Black	1.95	1.76	1.66	1.56
PKAP-50B-1/8	.787	Black	.65	.59	.55	.52
PKAP-50B-1/4	.787	Black	.65	.59	.55	.52
PKAP-70B-1/4	.976	Black	.75	.68	.64	.60
PKAP-90B-1/4	1.362	Black	.90	.81	.77	.72

LEXINGTON SERIES STRAIGHT KNURL PLASTIC KNOBS AND CONCENTRIC SETS

Handsome black or red plastic knobs with knurl serrations, spun aluminum inlay. PKGC models are black concentric sets. PKGP models have pointers. PKGC-BP models are concentric sets with pointers. For 1/8" and 1/4" diameter shafts, as specified.

PKG-40B-1/8	.437	Black	$0.45	$0.41	$0.38	$0.36
PKG-40R-1/8	.437	Red	.50	.45	.43	.40
PKG-50B-1/8	.551	Black	.60	.54	.51	.48
PKG-50R-1/8	.551	Red	.55	.50	.47	.44
PKG-50B-1/4	.551	Black	.60	.54	.51	.48
PKG-50R-1/4	.551	Red	.55	.50	.47	.44
PKG-60B-1/8	.673	Black	.60	.54	.51	.48
PKG-60R-1/8	.673	Red	.55	.50	.47	.44
PKG-60B-1/4	.673	Black	.60	.54	.51	.48
PKG-60R-1/4	.673	Red	.55	.50	.47	.44
PKG-70B-1/8	.740	Black	.65	.59	.55	.52
PKG-70R-1/8	.740	Red	.60	.54	.51	.48
PKG-70B-1/4	.740	Black	.65	.59	.55	.52
PKG-70R-1/4	.740	Red	.60	.54	.51	.48
PKG-90B-1/8	.858	Black	.70	.63	.60	.56
PKG-90R-1/8	.858	Red	.65	.59	.56	.52
PKG-90B-1/4	.858	Black	.70	.63	.60	.56
PKG-90R-1/4	.858	Red	.65	.59	.56	.52
PKG-100B-1/4	1.055	Black	.70	.63	.60	.56
PKG-125B-1/4	1.248	Black	.90	.81	.77	.72
PKGC-570B	.740, .531	Black	1.10	.90	.94	.88
PKGC-690B	.862, .654	Black	1.25	1.13	1.05	1.00
PKGC-910B	1.055, .846	Black	1.55	1.40	1.32	1.24
PKGP-70B-1/4	.740	Black	.75	.68	.64	.60
PKGP-90B-1/4	.862	Black	.80	.72	.68	.64
PKGP-100B-1/4	1.059	Black	.90	.81	.77	.72
PKGC-570BP	.740, .531	Black	1.25	1.13	1.06	1.00
PKGC-690BP	.854 ,.654	Black	1.30	1.17	1.11	1.04
PKGC-910BP	1.059, .846	Black	1.50	1.35	1.28	1.20

PLASTIC CONTROL KNOBS

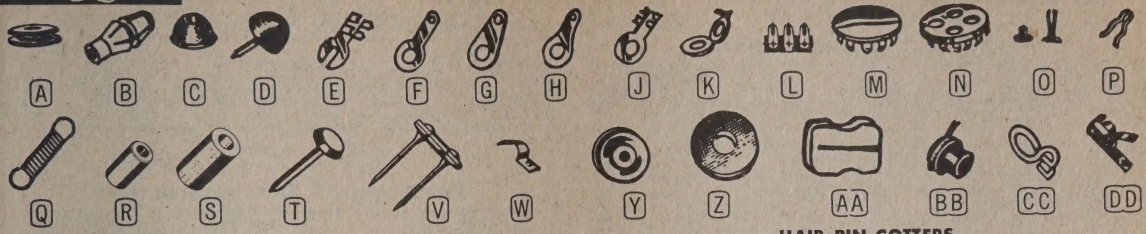
Knurled plastic control knobs with aluminum inlay on top. Model PKP has bar pointers. Models PKS have aluminum dial skirts. Models PKS-11 have skirts with 0–10 markings. Model PFM is a seven-sided knob. For 1/4" diameter shafts.

PK-1108B-1/4	1.000	Black	$0.50	$0.45	$0.43	$0.40
PKP-194B-1/4	1.020	Black	.80	.72	.68	.64
PKS-90B-1/4	1.420	Black	.55	.50	.47	.44
PKS-90B-10-1/4	1.420	Black	.60	.54	.51	.48
PKS-1104B-1/4	1.160	Black	.45	.41	.38	.36
PKS-1103B-10-1/4	1.160	Black	.50	.45	.43	.40
PKS-1106B-1/4	1.160	Black	.50	.45	.43	.40
PKS-1105B-10-1/4	1.160	Black	.55	.50	.47	.44
PFM-80B-1/4	.826	Black	.50	.45	.43	.40
PFM-100B-1/4	1.020	Black	.60	.54	.51	.48

SLIDE SWITCH ACTUATOR KNOBS

Fit SS multi-position slide switches, Models SS-110-13, SS-111. Natural aluminum or black anodized finish.

Alco No.	Actuator Knob Description	Net Each, Lots of 1-99	100-249	250-499	500-999
KSS-1A	Natural, small, less hairline	$0.30	$0.27	$0.26	$0.24
KSS-1B	Black, small, less hairline	.30	.27	.26	.24
KSS-2A	Natural, large, less hairline	.35	.32	.30	.28
KSS-2B	Black, large, less hairline	.35	.32	.30	.28
KSS-3A	Natural, large, double hairline	.40	.36	.34	.32
KSS-3B	Black, large, double hairline	.40	.36	.34	.32



G-C C-PACK (100-PACK)

Stock 100-lot packages in handy, clearly marked boxes for quick selection.

G-C M-PACK (1,000-PACK)

Bulk hardware in box of 1,000.

RUBBER GROMMETS

Fig. No.	C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net§
A	1041-2C	$ 1.91	11/32" O.D. x 1/8" I.D.	1041-2M	$15.33
A	1041-C	2.88	7/16" O.D. x 3/16" I.D.	1041-M	23.07
A	1042-C	2.56	9/16" O.D. x 1/4" I.D.	1042-M	20.49
A	1043-C	4.90	5/8" O.D. x 3/8" I.D.	1043-M	39.20
A	1043-1C	4.42	13/16" O.D. x 1/2" I.D.	1043-1M	35.40
A	5710-C	5.84	1/2" O.D. x 3/16" I.D.	5710-M	46.73
A	7566-C	4.16	1/2" O.D. x 1/4" I.D.	7566-M	33.19
A	5711-C	6.49	7/8" O.D. x 9/16" I.D.	5711-M	51.95
A	5712-C	7.91	3/4" O.D. x 7/16" I.D.	5712-M	63.33
A	7569-C*	8.84	1 1/16" O.D. x 3/8" I.D.	7569-M*	70.79
A	5715-C	6.05	3/4" O.D. x 5/16" I.D.	5715-M	48.40
A	5716-C	8.81	1 1/8" O.D. x 5/8" I.D.	5716-M	70.44
A	5717-C	17.74	1 5/16" O.D. x 11/16" I.D.	5717-M	141.90
A	5718-C†	12.19	1 1/16" O.D. x 7/16" I.D.	5718-M†	97.42
A	7582-C	2.51	7/16" O.D. x 5/16" I.D. gum	7582-M	19.99
A	7584-C	3.53	9/16" O.D. x 1/4" I.D. gum	7584-M	28.71

CORD STRAIN RELIEFS

B	6675-C	$8.11	Fits P.O.S.J. cord	6675-M	$64.86

RUBBER BUMPERS AND FEET

C	1075-BC	$ 2.23	1/8" O.D. rbr. feet	1075-BM	$17.90
C	1075-CC	2.97	1/4" O.D. rbr. feet	1075-CM	23.67
C	1075-FC	4.18	5/8" O.D. rbr. feet	1075-FM	33.34
C	7058-C	5.48	3/4" O.D. rbr. feet	7058-M	43.90
D	1075-C	2.98	3/8" O.D. tack bumper	1075-M	23.87
....	7596-C	2.19	3/8" O.D. rbr. bumper	7596-M	17.45
....	7597-C	3.27	1/2" O.D. rbr. bumper	7597-M	26.09

TINNED SOLDERING LUGS

E	1021-BC	$1.96	No. 6, 21/32" long	1021-BM	$15.73
E	7445-C	1.85	No. 8, 5/8" long	7445-M	14.74
F	1021-CC	1.43	No. 6, 11/16" long	1021-CM	11.35
G	1021-FC	1.66	No. 6, 9/16" long	1021-FM	13.33
G	7451-C	1.38	No. 8, 9/16" long	7451-M	11.08
H	7454-C	2.04	No. 6, 13/16" long	7454-M	16.34
H	7455-C	2.04	No. 8, 13/16" long	7455-M	16.34
H	7456-C	2.04	No. 10, 13/16" long	7456-M	16.34
....	7462-C	2.15	No. 6, 5/8" long	7462-M	17.20
J	7441-C	1.82	No. 6, 11/16" long	7441-M	14.55
J	7442-C	1.72	No. 8, 11/16" long	7442-M	13.72
J	1021-AC	1.72	No. 10, 11/16" long	1021-AM	13.72
K	8633-C	2.54	Solderless TV line lug	8633-M	20.32

TERMINAL STRIPS

L	1781-C	$ 4.60	1-Lug strip, 1/16" thick	.....	.....
L	1782-C	4.60	2-Lug strip, 1/16" thick	.....	.....
L	1783-C	4.79	3-Lug strip, 1/16" thick	.....	.....
L	1784-C	6.60	4-Lug strip, 1/16" thick	.....	.....
L	1785-C	7.62	5-Lug strip, 1/16" thick	.....	.....
L	1786-C	8.11	6-Lug strip, 1/16" thick	.....	.....
L	1787-C	14.71	7-Lug strip, 1/16" thick	.....	.....
L	1788-C	16.21	8-Lug strip, 1/16" thick	.....	.....

SNAP-IN BUTTON HOLE AND VENT PLUGS

M	1711-AC	$ 3.51	Plug for 1/4" hole	1711-AM	$28.13
M	1711-C	3.89	Plug for 5/8" hole	1711-M	31.16
M	1711-BC	3.70	Plug for 5/16" hole	1711-BM	29.47
M	1712-C	4.73	Plug for 1/2" hole	1712-M	37.76
M	1713-C	5.08	Plug for 5/8" hole	1713-M	40.65
M	1714-C	7.13	Plug for 3/4" hole	1714-M	57.14
M	1714-AC	7.12	Plug for 7/8" hole*	1714-AM	56.89
M	1715-AC	9.30	Plug for 1" hole	1715-AM	74.41
M	1715-BC	9.10	Plug for 1 1/8" hole	1715-BM	72.82
M	1715-C	9.92	Plug for 1 1/4" hole	1715-M	79.42
M	5700-C	10.93	Plug for 1 3/8" hole	5700-M	87.56
M	5702-C	14.42	Plug for 1 1/2" hole	5702-M	115.31
N	1709-C	12.46	Vent plug for 1" hole	1709-M	99.74
....	1708-C	36.15	Screen vent for 1" hole	1708-M	289.12
....	7333-CW	10.30	Screen vent for 3/4" hole‡	7333-MW	82.29

SNAP-IN TRIMOUNTS

O	1722-C	$2.65	Trimount fits 1/8" hole	1722-M	$20.90

*For switch box knock-out. †Blind. ‡Eyelet type.

HAIR PIN COTTERS

Fig. No.	C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net§
P	7377-C	$0.58	13/32" long	7377-M	$5.76
P	7378-C	.74	1/2" long	7378-M	5.92

PHONO SPRINGS

Q	6450-C	$ 7.72	1/2" lg. x 1/8" dia. spring	6450-M	$61.81
Q	6452-C	6.50	1" lg. x 5/16" dia. spring	6452-M	52.00
Q	7407-C	16.47	9/16" lg. x 3/16" dia. spring	7407-M	131.36

ALUMINUM SPACERS WITH TAPPED HOLE

R	13-700-C	$25.05	1" long, for 6-32 screw	.....	.....
R	13-704-C	28.18	1 1/2" long, for 6-32 screw	.....	.....
R	13-708-C	30.27	2" long, for 6-32 screw	.....	.....
R	13-712-C	33.40	2 1/2" long, for 6-32 screw	.....	.....

CADMIUM PLATED BRASS SPACERS

Round threaded.

S	13-604-C	$ 8.35	1/2" long, for 4-40 screw	.....	.....
S	13-606-C	14.04	3/4" long, for 4-40 screw	.....	.....
S	13-608-C	14.48	1" long, for 4-40 screw	.....	.....
S	13-620-C	11.65	1/2" long, for 6-32 screw	.....	.....
S	13-622-C	17.52	3/4" long, for 6-32 screw	.....	.....
S	13-624-C	19.48	1" long, for 6-32 screw	.....	.....
S	13-636-C	11.65	1/2" long, for 8-32 screw	.....	.....
S	13-638-C	18.12	3/4" long, for 8-32 screw	.....	.....
S	13-640-C	20.55	1" long, for 8-32 screw	.....	.....

WIRING NAILS

T	8020-C	$1.24	300-ohm fiber head type	8020-M	$10.02
V	8021-C	1.57	Lead-in type	8021-M	12.62

CABLE HOLDER CLAMPS AND BASEBOARD CLIPS

W	6251-C	$1.52	Clamps 1/8" to 3/16" cable	6251-M	$12.10
W	6252-C	1.73	Clamps 5/16" to 1/4" cable	6252-M	13.87
W	7503-C	1.94	Clamps 1/4" to 5/16" cable	7503-M	15.48
W	6253-C	1.86	Clamps 5/16" to 1/2" cable	6253-M	14.84

PULLEYS AND FUSE CLIPS

Y	6057-AC	$ 7.12	3/8" O.D. pulley	6057-AM	$56.89
Z	6057-CC	14.38	.620" O.D. pulley	6057-CM	100.63
AA	6311-C	3.23	Asst. clips for 1/4" fuse	6311-M	25.74

HIGH VOLTAGE GRID CLIPS, CAPS

Fig. No.	C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net§
BB	8838-1RC	$ 7.39	1/4" spring clip	8838-1RM	$ 59.10
BB	8838-2RC	7.67	3/8" spring clip	.....	.....
CC	8834-C	38.61	1/4" insulated cap	.....	.....
CC	8835-C	38.61	3/8" insulated cap	.....	.....

FAHNESTOCK CLIPS

....	6301-C	$ 2.56	1/2" lg. x 7/16" w. for No. 16 wire	6301-M	$ 20.34
DD	6302-C	3.40	3/4" lg. x 5/16" w. for No. 14 wire	6302-M	27.20
DD	6303-C	5.30	1" lg. x 3/8" w. for No. 10 wire	6303-M	42.49
....	.....	.....	1 1/2" lg. x 5/16" w. for No. 10 wire	6304-M	138.11
....	6306-C	7.62	3/4" lg. x 5/16" w. for No. 14 wire	.....	.....

ANGLES AND BRACKETS

For mounting and support of small electronic components. Right-angle design; hole accommodates #6 machine screw.

Fig. No.	C-PACK G-C No.	C-PACK Net*	Hole Centers†	Width	M-PACK G-C No.	M-PACK Net§
....	6261-C	$3.41	1/4" x 3/16"	9/32"	6261-M	$27.27
....	6262-C	2.70	3/8" x 1/4"	9/32"	6262-M	21.64
....	6263-C	2.42	1/2" x 7/16"	3/8"	6263-M	19.31

†From corner.

*Net each package (100 pieces per package). §Net each package (1000 pieces). Quantity prices on request.

STEEL NICKEL-PLATED ROUND HEAD MACHINE SCREWS

C-PACK G C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
7130-C	$0.95	2-56 x 1/4" machine screw	7130-M	$ 7.61
7131-C	1.06	2-56 x 1/2" machine screw	7131-M	8.35
7132-C	1.35	2-56 x 3/4" machine screw	7132-M	10.77
6005-C	.94	4-36 x 1/4" machine screw	6005-M	7.41
6006-C	.97	4-36 x 1/2" machine screw	6006-M	7.79
6005-AC	1.36	4-40 x 1/4" machine screw	6005-AM	10.93
6005-BC	1.46	4-40 x 1/2" machine screw	6005-BM	11.73
6005-CC	1.00	4-40 x 3/4" machine screw	6005-CM	7.95
6008-C	1.16	6-32 x 1/4" machine screw	6008-M	9.33
6009-C	1.16	6-32 x 1/2" machine screw	6009-M	9.33
6010-C	1.31	6-32 x 3/4" machine screw	6010-M	10.53
6011-C	1.46	6-32 x 1" machine screw	6011-M	11.73
7141-C	1.57	6-32 x 1 1/4" machine screw	7141-M	12.53
7148-C	2.63	6-32 x 2" machine screw	7148-M	21.07
6013-C	1.10	8-32 x 1/4" machine screw	6013-M	8.81
6014-C	1.21	8-32 x 3/8" machine screw	6014-M	9.66
6015-C	1.36	8-32 x 1/2" machine screw	6015-M	10.93
6016-C	1.44	8-32 x 3/4" machine screw	6016-M	11.51
6017-C	1.82	8-32 x 1" machine screw	6017-M	14.54
7142-C	1.91	8-32 x 1 1/4" machine screw	7142-M	15.25
6020-C	1.62	10-32 x 1/2" machine screw	6020-M	12.87
6021-C	1.77	10-32 x 3/4" machine screw	6021-M	14.05
6022-C	2.15	10-32 x 1" machine screw	6022-M	16.94
7143-C	2.83	10-32 x 1 1/2" machine screw	7143-M	22.55

STEEL BINDING HEAD MACHINE SCREWS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
7151-C	$0.86	6-32 x 3/16" binding head	7151-M	$6.93
7152-C	1.10	6-32 x 1/4" binding head	7152-M	8.80
7153-C	.97	6-32 x 3/8" binding head	7153-M	7.83
7158-C	1.21	8-32 x 5/16" binding head	7158-M	9.66

NICKEL-PLATED BRASS BINDING HEAD MACHINE SCREWS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
7170-1C	$2.15	4-40 x 1/4" binding head	7170-1M	$17.20
7171-1C	1.76	4-40 x 1/2" binding head	7171-1M	14.05
7152-1C	2.53	6-32 x 1/4" binding head	7152-1M	20.27
7153-1C	2.53	6-32 x 3/8" binding head	7153-1M	20.27
7118-1C	2.75	6-32 x 1/2" binding head	7118-1M	22.00
7173-1C	2.45	6-32 x 3/4" binding head	7173-1M	19.64
7119-1C	3.21	8-32 x 3/4" binding head	7119-1M	25.61
7120-1C	4.00	8-32 x 1/2" binding head	7120-1M	32.00
7175-1C	4.90	8-32 x 3/4" binding head	7175-1M	39.20
7176-1C	4.10	10-32 x 1/2" binding head	7176-1M	32.86
7177-1C	6.11	10-32 x 3/4" binding head	7177-1M	48.82

OVAL HEAD RACK AND CABINET SCREWS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
6540-C	$0.96	6-32 x 1/2" rack screw	6540-M	$ 7.62
5693-C	1.89	10-32 x 3/8" rack screw	5693-M	15.14
6543-C	1.72	10-32 x 3/4" rack screw	6543-M	13.72

MOUNTING SCREWS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
6081-C	$5.56	6-32 x 9/32" with No. 6 hole	6081-M	$44.30
6082-C	6.05	6-32 x 13/32" with No. 6 hole	6082-M	48.38
6084-C	12.24	8-32 x 7/16" with No. 8 hole	6084-M	97.99

SELF-TAPPING SHEET METAL SCREWS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
6090-C	$1.30	No. 4 x 1/2" metal screw	6090-M	$10.33
6091-C	1.35	No. 6 x 1/4" metal screw	6091-M	10.85
6092-C	1.50	No. 6 x 3/8" metal screw	6092-M	12.00
6093-C	1.55	No. 6 x 1/2" metal screw	6093-M	12.40
6094-C	1.57	No. 6 x 3/4" metal screw	6094-M	12.53
8102-C	1.57	No. 8 x 1/4" metal screw	8102-M	12.53
6095-C	1.78	No. 8 x 3/8" metal screw	6095-M	14.34
6096-C	1.84	No. 8 x 1/2" metal screw	6096-M	14.71
6097-C	2.15	No. 8 x 1" metal screw	6097-M	17.09
6099-C	2.20	No. 10 x 1/2" metal screw	6099-M	17.53
6100-C	2.51	No. 10 x 3/4" metal screw	6100-M	20.04

MISCELLANEOUS SET AND MOUNTING SCREWS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
7202-C	$7.59	8-32 x 3/16" Allen hex set screw	7202-M	$60.62
6005-C	.94	4-36 x 1/4" cartridge screw	6005-M	7.41
6005-AC	1.36	4-40 x 1/4" cartridge screw	6005-AM	10.93

MISCELLANEOUS NICKEL-PLATED NUTS

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
7225-C	$1.66	2-56 x 3/16" wide hex nut	7225-M	$13.33
7226-C	1.76	3-48 x 3/16" wide hex nut	7226-M	14.13
6041-C	1.86	4-36 x 1/4" wide hex nut	6041-M	14.93
6041-AC	1.93	4-40 x 1/4" wide hex nut	6041-AM	15.46
6042-C	2.05	6-32 x 1/4" wide hex nut	6042-M	16.40
7230-C	2.15	6-32 x 5/16" wide hex nut	7230-M	17.20
6043-C	2.05	8-32 x 1/4" wide hex nut	6043-M	16.40
7233-C	2.15	8-32 x 11/64" wide hex nut	7233-M	17.20
7235-C	2.75	1/4-20 x 7/16" wide hex nut	7235-M	22.00
6050-AC	2.48	3/8-32 vol. control mtg. nut	6050-AM	19.93
6050-BC	3.31	15/64-32 toggle switch nut	6050-BM	26.53
6050-CC	5.34	15/64-32 round ring nut	6050-CM	42.68
6052-C	1.21	No. 6 Tinnerman speed nut	6052-M	9.66
6053-C	1.21	No. 8 Tinnerman speed nut	6053-M	9.66
6031-C	9.98	6-32 acorn nut	6031-M	79.88
6032-C	4.51	8-32 acorn nut	6032-M	36.07
6033-C	6.63	10-32 acorn nut	6033-M	53.08
6655-C	3.83	6-32 knurled thumb nut	6655-M	30.73
6656-C	3.83	8-32 knurled thumb nut	6656-M	30.73
6657-C	7.66	10-32 knurled thumb nut	6657-M	61.30
6658-C	4.09	6-32 wing nut	6658-M	32.68

WASHERS FOR EVERY PURPOSE

C-PACK G-C No.	C-PACK Net*	Description	M-PACK G-C No.	M-PACK Net*
7322-C	$1.10	No. 2 internal lock washer	7322-M	$ 8.81
7324-C	.70	No. 4 internal lock washer	7324-M	5.59
7326-C	.75	No. 6 internal lock washer	7326-M	5.96
7328-C	.74	No. 8 internal lock washer	7328-M	5.92
7330-C	.74	No. 10 internal lock washer	7330-M	5.92
7332-C	.98	No. 1/4" internal lock washer	7332-M	7.79
7335-C	1.94	No. 3/8" internal lock washer	7335-M	15.41
7354-C	.68	No. 4 external lock washer	7354-M	5.41
7356-C	.68	No. 6 external lock washer	7356-M	5.41
7358-C	.74	No. 8 external lock washer	7358-M	5.92
6503-C	.89	No. 4 split type lock washer	6503-M	7.12
6504-C	.73	No. 6 split type lock washer	6504-M	5.76
6505-C	2.10	No. 8 split type lock washer	6505-M	16.89
7385-C	3.01	5/32" ID x 5/16" OD spring wshr.	7385-M	24.06
7386-C	2.54	3/16" ID x 3/8" OD spring wshr.	7386-M	20.32
6162-C	.76	No. 8 cup washer	6162-M	6.09
6163-C	.96	No. 10 cup washer	6163-M	7.62
6513-C	.76	No. 6 flat fiber washer	6513-M	6.09
6514-C	.76	No. 8 flat fiber washer	6514-M	6.09
6515-C	.76	No. 10 flat fiber washer	6515-M	6.09
6516-C	.91	No. 1/4" flat fiber washer	6516-M	7.28
6517-C	1.20	No. 3/8" flat fiber washer	6517-M	9.47
6525-C	1.96	No. 6 extruded fiber washer	6525-M	15.73
6526-C	1.86	No. 8 extruded fiber washer	6526-M	14.93
6527-C	2.00	No. 10 extruded fiber washer	6527-M	16.00
6528-C	2.15	No. 1/4" extruded fiber washer	6528-M	17.20
6529-C	2.00	No. 3/8" extruded fiber washer	6529-M	16.00
6154-C	.70	No. 4 metal washer	6154-M	5.59
6155-C	.70	No. 6 metal washer	6155-M	5.59
6156-C	.76	No. 8 metal washer	6156-M	6.09
7306-C	.73	No. 10 metal wshr., 3/8" O.D.	7306-M	5.76
6157-C	.76	No. 10 metal wshr., 1/2" O.D	6157-M	6.09
6158-C	1.06	No. 1/4" metal washer	6158-M	8.46

BRASS EYELETS

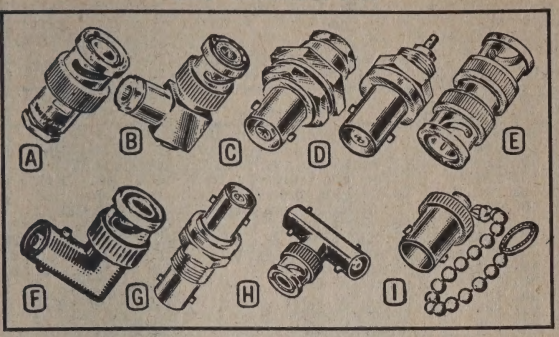
C-PACK G-C No.	C-PACK Net*	Dimensions, In. Shank Dia.	Lgth.	Head Dia.	M-PACK G-C No.	M-PACK Net*
7251-C	$0.51	.087	1/8	.145	7251-M	$4.08
7252-C	.64	.087	5/32	.145	7252-M	5.23
7253-C	.74	.087	7/32	.145	7253-M	5.92

NICKEL PLATED RIVETS

C-PACK G-C No.	C-PACK Net*	Dimensions, In. Shank Dia.	Length	M-PACK G-C No.	M-PACK Net*
7286-C	$1.19	.121	1/8	7286-M	$9.47
7288-C	.94	.121	3/16	7288-M	8.17

*Net each package (100 pieces per package). *Net each package (1000 pieces). Quantity prices on request.

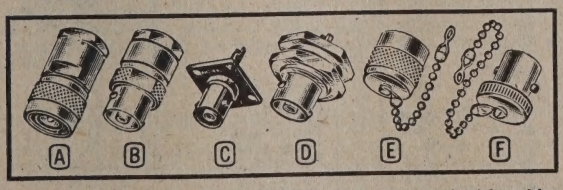
BNC CONNECTORS



Bayonet coupling coax connectors designed for RG-58, RG-59 and other cable as indicated. Use to 10,000 MHz, 500 V maximum.

Amphenol No.	UG/U No.	Fig.	Description	Imped. Ohms	RG Cable
31-002	88	A	Plug	.....	55, 58
31-012	260	A	Plug	.....	59, 62, 71
31-018	88B	A	Plug	.....	55, 58
31-021	260A	A	Plug	.....	59, 62, 71
31-202	88C	A	Plug	50	55, 58
31-212	260B	A	Plug	.....	59, 62, 71
31-204	913	B	Angle Plug	.....	55, 58
31-850	.....	B	Angle Plug	.....	59, 62, 71
31-005	89	....	Jack	.....	55, 58
31-015	261	....	Jack	.....	59, 62, 71
31-019	89A	....	Jack	.....	55. 58
31-022	261A	....	Jack	.....	59, 62, 71
31-205	89B	....	Jack	50	55, 58
31-215	261B	....	Jack	.....	59, 62, 71
31-001	291	....	Panel Jack	.....	55, 58
31-011	262	....	Panel Jack	.....	59, 62, 71
31-020	291A	....	Panel Jack	.....	55, 58
31-023	262A	....	Panel Jack	.....	59, 62, 71
31-201	291B	....	Panel Jack	50	55, 58
31-211	262B	....	Panel Jack	.....	59, 62, 71
31-206	909	C	Blkhd. Jack	50	55, 58
31-207	910	C	Blkhd. Jack	.....	59, 62, 71
2075	624	C	Blkhd. Jack	.....	59, 62, 71
31-003	290	....	Panel Recpt.	.....	.....
31-105	.....	....	Panel Recpt.	.....	.....
31-203	290A	....	Panel Recpt.	50	.....
31-817	447	....	Panel Recpt.	.....	.....
31-842	.....	....	Panel Recpt.	.....	.....
4500	185	....	Panel Recpt.	.....	.....
31-222	1098	....	Angle Recpt.	50	.....
31-016	254A	D	Blkhd. Recpt.	.....	.....
31-102	657	D	Blkhd. Recpt.	.....	.....
31-221	1094	D	Blkhd. Recpt.	50	.....
31-236	625B	D	Blkhd. Recpt.	50	.....
31-218	491A	E	Adapter	50	.....
31-219	914	E	Adapter	50	.....
31-009	306	F	Angle Adapter	.....	.....
31-209	306A	F	Angle Adapter	50	.....
31-220	492A	G	Blkhd. Adapter	50	.....
47000	414	G	Blkhd. Adapter	.....	.....
31-008	274	H	"T" Adapter	.....	.....
31-208	274A	H	"T" Adapter	50	.....
31-006	CW-123	....	Cap & Chain	.....	.....
31-007	CW-155	....	Cap & Chain	.....	.....
31-017	CW-159	....	Cap & Chain	.....	.....
31-026	CW-123A	....	Cap & Chain	.....	.....
31-027	CW-155A	....	Cap & Chain	.....	.....
31-210	CW-282	I	Cap & Chain	.....	.....

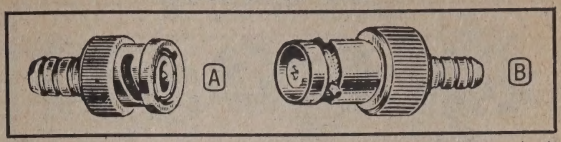
SERIES 82 TYPE C COAXIAL CONNECTORS



Low VSWR to 10,000 MHz, 1,500 V peak. Also used with cables other than 50 ohms. Meets applicable portions of MIL-C-3989.

Amphenol No.	UG/U No.	Fig.	Description	RG Cable
82-530	573A	A	Plug	8, 9
82-532	628A	A	Plug	8, 9A
82-534	709A	A	Plug	55, 58
82-531	710A	....	Angle Plug	8, 9
82-503	572	B	Panel Jack	8, 9
82-504	568	C	Panel Recpt.	.....
82-515	634	D	Blkhd. Recpt.	.....
82-535	567A	....	Angle Adapter	.....
82-512	MX-1142	E	Male Cap & Chain	.....
82-513	MX-1143	F	Female Cap & Chain	.....

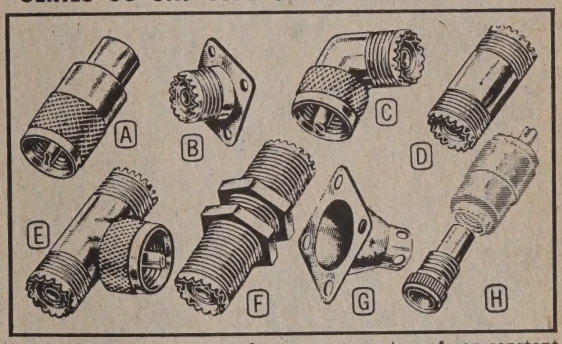
QUICK-CRIMP BNC



Exclusive design with optional crimp or solder center contact. Even with center contact crimped, connector maintains constant impedance. Non-impedance match connector when used with cables other than 50 ohm. VSWR identical to standard solder type BNC connectors, 1.25 to 1, over a frequency range to 10,000 MHz.

Amphenol No.	Like No. UG	Fig.	Description	RG/U Cable
36775	88E	A	Plug	58, 58A, 58C, 141
36875	88E	A	Plug	55, 55A, 142, 223
36800	89C	B	Cable Jack	58, 58A, 58C, 141
36900	89C	B	Cable Jack	55, 55A, 142, 223
34625	260B	A	Plug	71
68175	260B	A	Plug	59, 59A, 59B, 62, 62A, 62C, 140
68150	261C	B	Cable Jack	59, 59A, 59B, 62, 62A, 62C, 140
95700	909B	....	Blkhd. Jack	55, 55A, 142, 223
95725	909B	....	Blkhd. Jack	58, 58A, 58C, 141
95750	910B	....	Blkhd. Jack	59, 59A, 59B, 62, 62A, 62C, 140
95800	910B	....	Blkhd. Jack	122, 180A, 195, Amphenol 21-597
95575	913A	....	Right Angle Plug	55, 55A, 142, 223
95600	913A	....	Right Angle Plug	58, 58A, 58C, 141
95625	913A	....	Right Angle Plug	59, 59A, 59B, 62, 62A, 62C, 140
95650	913A	....	Right Angle Plug	71
95675	913A	....	Right Angle Plug	122, 180A, 195, Amphenol 21-597
36650	1033	A	Plug	122, 180A, 195, Amphenol 21-597
36675	1056	B	Cable Jack	122, 180A, 195, Amphenol 21-597

SERIES 83 UHF TYPE COAXIAL CONNECTORS



Small, single contact, general purpose connectors of non-constant impedance. Meet military specifications.

Amphenol No.	UG/U No.	Fig.	Description	RG/U Cable
83-1SP	PL259	A	Plug	8, 11
83-1SPN	PL259A	A	Plug	8, 11
83-750	111	A	Plug	59, 62
83-850	.....	A	Plug	11
83-851	.....	A	Plug	8
83-59	.....	.....	Angle Plug	8, 11
83-1R	SO239	B	Panel Recpt.	.....
83-1RTY	SO239	B	Panel Recpt.	.....
83-716	.....	B	Panel Recpt.	.....
83-798	SO239A	.....	Panel Recpt.	.....
83-1F	363	F	Straight Adapter	.....
83-1J	PL258	D	Straight Adapter	.....
83-1AP	646	C	Angle Adapter	.....
83-1T	.....	E	"T" Adapter	.....
83-168	176	H	Reducing Adapter	59, 62, 71
83-185	175	H	Reducing Adapter	55, 58
83-1H	106	G	Hood	8, 11
83-1HP	372	G	Hood	8, 11
83-765	177	G	Hood	55, 58
83-877	.....	.....	Double Male Adpt.	.....
83-878	.....	.....	Single Hole Recpt.	.....

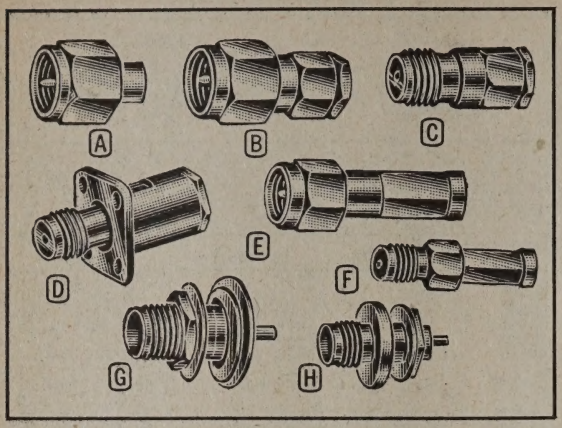
BN TYPE COAXIAL CONNECTORS

Non-impedance, low power connectors for use up to 200 MHz. Threaded coupling. 250 V maximum.

Amphenol No.	UG/U No.	Description	RG Cable
82-21	85	Plug	58, 59, 62
82-42	87	Receptacle	.....

SEE FOLLOWING PAGES FOR PRICING

SERIES SMA SEMI-PRECISION 3mm HIGH FREQUENCY CONNECTORS



Excellent mechanical and electrical performance, DC to 18 GHz, even after 100 mating cycles. "Thin Wall" beryllium copper bodies have .00452" interface mating cross-section. Coupling nut torque can be twice that of other SMA designs. Easy assembly requires only a simple, low-cost tool kit; crimp style uses standard BNC/TNC Crimper No. 227-350.

Amphenol No. 901-2500 Tool Kit—Jacket and dielectric trim tools for precise cable preparation required for electric performance specified. Net Each, Lots 1–24.....**$12.50**

PLUGS AND JACKS

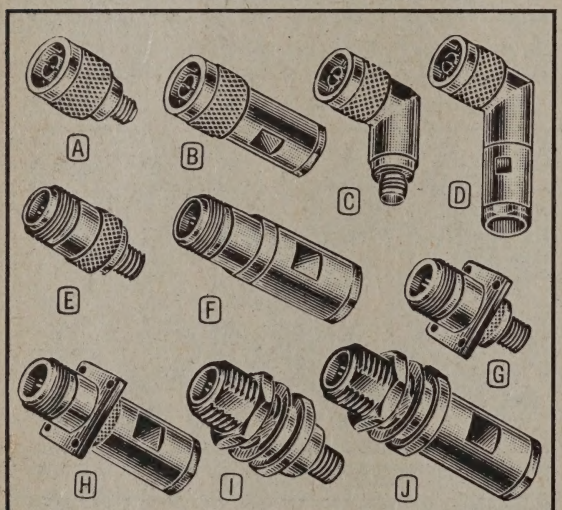
Solder affixment, except: *Clamp; †Crimp.

Amphenol Number	Fig.	Description	For RG/U Cable
901-113	A	Plug, less contact & insul.	.141" dia. Cujak
901-105	B	Plug with contact & insul.	.141" dia. Cujak
901-111*	....	Plug, less contact & insul.	.141" dia. Cujak
901-107*	....	Plug with contact & insul.	.141" dia. Cujak
901-106	C	Jack with contact & insul.	.141" dia. Cujak
901-108*	....	Jack with contact & insul.	.141" dia. Cujak
901-103*	....	Straight plug	55, 58, 141, 142, 223
901-104*	....	Straight jack	55, 58, 141, 142, 223
901-121*	D	Panel jack	55, 58, 141, 142, 223
901-122*	....	Bulkhead jack	55, 58, 141, 142, 223
901-101†	E	Straight plug	55, 142, 223
901-102†	F	Straight jack	55, 143, 223
901-109†	....	Straight plug	58, 141, 303
901-110	....	Straight jack	58, 141, 303

RECEPTACLES & WITHIN-SERIES ADAPTERS

Amphenol Number	Fig.	Description	Std. Wave Ratio Max. SWR	Std. Wave Ratio To f(GHz)
901-112	....	Panel receptacle	.....	.....
901-116	G	Rear-mt. bulkhead recept.	.....	.....
901-117	H	Front-mt. bulkhead recept.	.....	.....
901-118	....	Straight plug-plug adapter	1.15	.01
901-119	....	Straight jack-jack adapter	1.15	.01
901-120	....	Bulkhead jack-jack adapter	1.15	.01

TYPE N MIL-C-39012 CONNECTORS

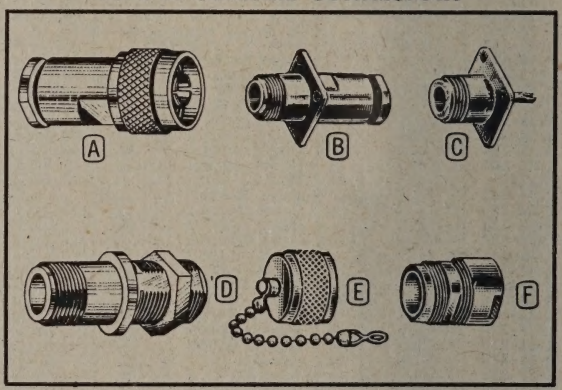


Medium size, weather proof, threaded coupling units for use up-to microwave frequencies. Designed to meet MIL-C-39012. They have crimpable fully captivated contacts, cable retention equal to the strength of the cable braid and utilize the same series of crimpable tools as the Amphenol BNC/TNC MIL type. Frequency range 0–10,000 MHz. 1500 V peak voltage.

Amphenol Number	UG/U No.	Fig.	MIL No. M39012/	Imped. Ohms	RG/U Cable
82-340	1681	A	Mil crimp 01-0007	50	8, 9, 213
82-332	1682	A	Mil crimp 01-0008	50	214
82-352	1185B	B	Mil clamp 01-0005	50	.....
82-352-1	21H	B	Mil clamp 01-0002	50	.....
82-5370	.....	A	Mil crimp	50	55, 58, 141
82-5375	.....	A	Mil crimp	50	142, 223
82-5381	.....	B	Mil clamp	50	.....
82-336	1708	C	Mil crimp 05-0003	50	8, 9, 213, 214
82-357	594C	D	Mil clamp 05-0001	50	.....
82-5379	.....	C	Mil crimp	50	55, 58, 141, 142
82-5374	.....	C	Mil crimp	50	223
82-337	1688	E	Mil crimp 02-0008	50	8, 9, 213, 214
82-333	1689	E	Mil crimp 02-0009	50	.....
82-356	1186B	F	Mil clamp 02-0003	50	.....
82-356-1	23G	F	Mil clamp 02-0002	50	.....
82-5371	.....	E	Mil crimp	50	142, 223
82-334	1698	G	Mil crimp 02-0017	50	.....
82-360	1187B	H	Mil clamp 02-0006	50	.....
82-360-1	22G	H	Mil clamp 02-0005	50	.....
82-335	1701	I	Mil crimp 03-0005	50	8, 9, 213, 214
82-5373	.....	I	Mil crimp	50	142, 223

SEE FOLLOWING PAGES FOR PRICING AND BETWEEN SERIES ADAPTERS

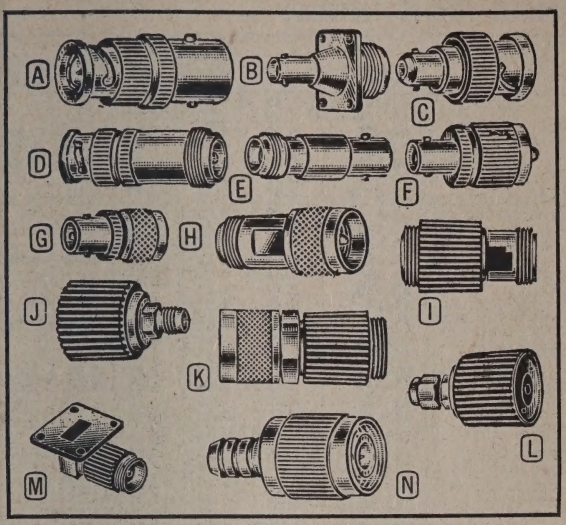
TYPE N COAXIAL CONNECTORS



Impedance matched to 50 or 70-ohm cables. 50-ohm connectors **will not** mate with 75-ohm connectors. Frequency range, 0–10,000 MHz. 500 V maximum. Threaded coupling.

Amphenol No.	UG/U No.	Fig.	Description	Imped. Ohms	RG/U Cable
82-61	21B	A	Plug	50	8, 9, 10
82-84	94A	A	Plug	70	11, 12, 13
82-86	18B	A	Plug	50	5, 6, 21
82-96	21C	A	Plug	50	8, 9, 10
82-104	167A	....	Plug	50	17, 18
82-202	21D	A	Plug	50	8, 9, 10
82-203	18C	A	Plug	50	5, 6, 21
82-204	941A	A	Plug	50	10, 12
34000	536	A	Plug	50	58, 141
82-835	.....	....	Angle Plug	50	8, 9, 10, 87A
82-63	23B	B	Jack	50	8, 9, 10
82-88	20B	B	Jack	50	5, 6, 21
82-89	95A	B	Jack	70	11, 12, 13
82-209	23D	B	Jack	50	8, 9, 10
82-212	940A	B	Jack	50	10, 12
82-62	22B	B	Panel Jack	50	8, 9, 10
82-87	19B	B	Panel Jack	50	5, 6, 21
82-90	96A	B	Panel Jack	70	11, 12, 13
35500	593	B	Panel Jack	50	59, 62, 71
82-67	160A	....	Blkhd. Jack	50	8, 9, 10
82-93	160B	....	Blkhd. Jack	50	8, 9, 10
82-24	58	C	Panel Recpt.	50	.....
82-97	58A	C	Panel Recpt.	50	.....
82-112	.....	C	Panel Recpt.	70	.....
82-811	680	....	Blkhd. Recpt.	50	.....
82-65	29A	D	Adapter	50	.....
82-100	57B	D	Adapter	50	.....
82-101	29B	D	Adapter	50	.....
82-64	27A	....	Angle Adapter	50	.....
82-98	27B	....	Angle Adapter	50	.....
82-213	27C	....	Angle Adapter	50	.....
82-66	30	....	Blkhd. Adapter	50	.....
82-36	107A	....	"T" Adapter	50	.....
82-99	28A	....	"T" Adapter	50	.....
82-102	107B	....	"T" Adapter	50	.....
82-106	MX913	E	Cap & Chain	.....	.....

BUNKER RAMO AMPHENOL RF Connectors, Pricing



BETWEEN SERIES ADAPTERS

APC, BNC, C, HN, MB, N, SMA, TNC, UHF

Amphenol No.	UG/U No.	Fig.	Mates with Plug	Recpt.	Plug	Recpt.	Imp., Ohms
83175	635	A	.....	BNC	C	.....	50
83200	636A	A	BNC	.....	.....	C	50
8900	309	B	BNC	.....	.....	HN	50
32750	.....	B	.....	BNC	HN	.....	.....
47200	.....	C	BNC	.....	MB	.....	50
47250	.....	C	BNC	.....	.....	MB	50
47275	.....	C	.....	BNC	MB	.....	50
31-216	201A	D	BNC	.....	.....	N	.....
31-217	349A	D	.....	BNC	N	.....	.....
31-830	201	D	BNC	.....	.....	N	.....
2800*	.....	D	BNC	.....	N	.....	50
2975	349	D	.....	BNC	N	.....	50
3025†	335	D	.....	BNC	N	.....	50
4900	.....	D	.....	BNC	.....	N	50
5225	1034	D	.....	BNC	.....	N	50
5850‡	.....	D	BNC	.....	N	.....	50
21850†	.....	D	BNC	.....	N	.....	50
79025	.....	E	.....	BNC	TNC	.....	50
79675	.....	E	BNC	.....	.....	TNC	50
31-028	273	F	BNC	.....	.....	UHF	.....
2900	255	F	.....	BNC	UHF	.....	50
12025	.....	F	BNC	.....	.....	UHF	50
82-508	564	G	C	.....	.....	N	50
82-540	565A	G	.....	C	N	.....	50
4400	146	H	.....	N	UHF	.....	.....
14000	83	H	N	.....	.....	UHF	.....
26700	318	H	.....	N	.....	UHF	.....
131-1025	.....	I	APC-7		.....	N	50
131-1026	.....	I	APC-7		.....	BNC	50
131-1027	.....	I	APC-7		.....	OSM	50
131-1028	.....	J	APC-7		.....	SMA	50
131-1035	.....	K	APC-7		N	.....	50
131-1036	.....	L	APC-7		TNC	.....	50
131-1037	.....	L	APC-7		BNC	.....	50
131-1038	.....	L	APC-7		SMA	.....	50
131-1201	.....	M	APC-7		WR-62 wavegd.		.....
131-1202	.....	M	APC-7		WR-90 wavegd.		.....

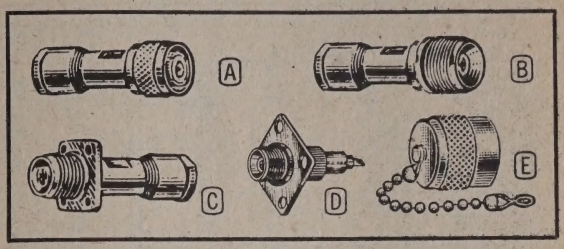
*Angle, flange mount. †Bulkhead mount. ‡Pressurized, bulkhead mount.

QUICK-CRIMP TNC SERIES CONNECTORS

Exclusive design has optional crimp or solder center contact. Maintains constant impedance even when center contact is crimped. Non-impedance match connector when used with cables other than 50 ohms. VSWR is identical to standard solder type TNC connectors, 1.25 to 1, over frequency range to 10,000 MHz.

Amphenol No.	Fig.	Description	RG/U Cable
36825	N	Plug	58, 58A, 58C, 141
36925	N	Plug	55, 55B, 142, 223
34825	N	Plug	71
69350	N	Plug	59, 59A, 59B, 62, 62A, 62C, 140
97750	.....	Blkhd. Jack	55, 55B, 142, 223
97775	.....	Blkhd. Jack	58, 58A, 58C, 141
97825	.....	Blkhd. Jack	71
97875	.....	Right Angle Plug	55, 55B, 142, 223
97900	.....	Right Angle Plug	58, 58A, 58C, 141
97925	.....	Right Angle Plug	59, 59A, 59B, 62, 62A, 62C, 140

TYPE HN COAXIAL CONNECTORS



Medium size, high voltage, 50-ohm constant impedance connectors with threaded coupling. Meets applicable sections of MIL-C-3643. Low VSWR to 10,000 MHz. 1,500 V maximum.

Amphenol No.	UG/U No.	Fig.	Description	RG/U Cable
82-38	59A	A	Straight Plug	8, 9, 10
82-111	495A	A	Straight Plug	17, 18
82-804	59B	A	Straight Plug	8, 9, 10
82-816	.....	A	Straight Plug	54A
82-833	.....	.....	Angle Plug	8, 9, 10
82-856	.....	.....	Angle Plug	8, 9, 10
82-39	60A	B	Straight Jack	8, 9, 10
82-107	333A	B	Straight Jack	17, 18
82-814	60B	B	Straight Jack	8, 9, 10, 87
82-40	61A	C	Panel Jack	8, 9, 10
82-92	496	D	Panel Recpt.	.....
82-805	560	D	Panel Recpt.	.....
82-91	212A	.....	Angle Adapter	.....
82-130	.....	E	Cap & Chain	.....

AMPHENOL RF CONNECTOR PRICING

MIL No.	Amphenol Number	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
CW-123	31-006	1.03	0.85	0.71	0.61	0.54
CW-155	31-007	.45	.37	.31	.27	.24
CW-155A	31-027	.61	.50	.42	.36	.32
CW-159	31-017	1.41	1.16	.97	.84	.74
CW-282	31-210	1.05	.86	.72	.62	.....
MX-913	82-106	.91	.75	.63	.54	.48
MX-1142	82-512	1.73	1.42	1.19	1.03	.....
MX-1143	82-513	1.73	1.42	1.19	.....	.....
PL-258	83-1J	1.31	1.07	.90	.78	.68
PL-259	83-1SP	.78	.64	.54	.47	.41
PL-259A	83-1SPN	1.45	1.19	1.00	.86	.76
SO-239	83-1R	.68	.56	.47	.41	.36
SO-239	83-1RTY	1.18	.96	.81	.70	.62
SO-239A	83-798	1.76	1.44	1.21	1.04	.92
UG-18B/U	82-86	2.85	2.33	1.96	1.69	.....
UG-18C/U	82-203	2.85	2.33	1.96	.....	.....
UG-19B/U	82-87	3.21	2.63	2.21	.....	.....
UG-20B/U	82-88	2.64	2.17	1.82	.....	.....
UG-21B/U	82-61	1.76	1.44	1.21	1.04	.92
UG-21C/U	82-96	2.09	1.72	1.44	1.24	1.09
UG-21D/U	82-202	2.09	1.72	1.44	1.24	1.09
UG-22B/U	82-62	2.76	2.26	1.90	1.64	1.44
UG-23B/U	82-63	2.22	1.82	1.53	1.32	1.16
UG-23D/U	82-209	2.03	1.67	1.40	1.21	1.06
UG-27A/U	82-64	4.66	3.82	3.21	2.77	2.44
UG-27B/U	82-98	5.05	4.14	3.48	3.00	3.64
UG-27C/U	82-213	4.24	3.48	2.92	2.52	2.22
UG-28A/U	82-99	5.29	4.34	3.64	3.14	2.77
UG-29A/U	82-65	2.86	2.35	1.97	1.70	1.50
UG-29B/U	82-101	2.51	2.06	1.73	1.49	1.31
UG-30/U	82-66	5.71	4.68	3.93	3.39	2.99
UG-57B/U	82-100	3.15	2.58	2.17	1.87	1.65
UG-58/U	82-24	1.47	1.20	1.01	.87	.77
UG-58A/U	82-97	1.52	1.24	1.04	.90	.79
UG-59A/U	82-38	5.33	4.37	3.67	3.17	2.79
UG-59B/U	82-804	4.73	3.88	3.26	2.81	2.48
UG-60A/U	82-39	5.75	4.72	3.96	.....	.....
UG-60B/U	82-814	4.82	3.95	3.32	.....	.....
UG-61A/U	82-40	6.29	5.16	4.33	.....	.....
UG-83/U	14000	5.85	4.80	4.03	3.48	3.06
UG-85/U	82-21	5.21	4.28	3.59	.....	.....
UG-87/U	82-42	4.73	3.88	3.26	.....	.....
UG-88/U	31-002	.90	.74	.62	.54	.47
UG-88B/U	31-018	1.12	.92	.77	.66	.59
UG-88C/U	31-202	.99	.81	.68	.59	.52
UG-89/U	31-005	1.63	1.33	1.12	.97	.85
UG-89A/U	31-019	1.50	1.23	1.03	.89	.78
UG-89B/U	31-205	1.42	1.17	.98	.85	.74
UG-94A/U	82-84	2.99	2.45	2.06	1.78	1.57
UG-95A/U	82-89	3.15	2.58	2.17	1.87	.....
UG-96A/U	82-90	3.51	2.88	2.42	.....	.....
UG-106/U	83-1H	.65	.54	.45	.39	.34
UG-107A/U	82-36	6.77	5.55	4.66	4.02	.....
UG-107B/U	82-102	7.11	5.84	4.90	4.23	3.72
UG-111/U	83-750	1.34	1.10	.92	.79	.70
UG-146/U	4400	4.82	3.95	3.32	2.87	2.52
UG-160A/U	82-67	4.02	3.30	2.77	.....	.....
UG-160B/U	82-93	3.21	2.63	2.21	.....	.....

Continued on the following page

RF CONNECTOR PRICING (CONTINUED)

MIL No.	Amphenol Number	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
UG-167A/U	82-104	$ 8.29	$ 6.80	$ 5.71	$4.93	.....
UG-175/U	83-185	.24	.20	.17	.14	$0.13
UG-176/U	83-168	.25	.20	.17	.15	.13
UG-177/U	83-765	.58	.48	.40	.35	.30
UG-185/U	4500	1.70	1.39	1.17	1.01	.89
UG-201/U	31-830	3.62	2.97	2.49	2.15	1.89
UG-201A/U	31-216	2.29	1.88	1.58	1.36	1.20
UG-212A/U	82-91	7.17	5.88	4.94	.....	.....
UG-254A/U	31-016	6.74	5.53	4.64	4.00	3.53
UG-255/U	2900	3.06	2.51	2.11	1.82	1.60
UG-260/U	31-012	1.12	.92	.77	.66	.59
UG-260A/U	31-021	1.13	.93	.78	.67	.59
UG-260B/U	31-212	1.12	.92	.77	.66	.59
UG-261/U	31-015	1.80	1.48	1.24	1.07	.94
UG-261A/U	31-022	1.55	1.27	1.07	.....	.....
UG-261B/U	31-215	1.73	1.42	1.19	1.03	.90
UG-262/U	31-011	1.96	1.61	1.35	1.17	1.03
UG-262A/U	31-023	2.69	2.20	1.85	.....	.....
UG-262B/U	31-211	1.99	1.63	1.37	1.18	1.04
UG-273/U	31-028	1.77	1.45	1.22	1.05	.93
UG-274/U	31-008	3.06	2.50	2.10	1.82	1.60
UG-274A/U	31-208	3.25	2.67	2.24	1.93	1.70
UG-290/U	31-003	1.13	.93	.78	.67	.59
UG-290A/U	31-203	1.05	.86	.72	.62	.55
UG-291/U	31-001	1.74	1.43	1.20	1.04	.91
UG-291A/U	31-020	1.74	1.43	1.20	1.04	.91
UG-291B/U	31-201	1.82	1.49	1.25	1.08	.....
UG-306/U	31-009	2.90	2.38	2.00	1.73	1.52
UG-306A/U	31-209	3.33	2.73	2.29	1.98	1.74
UG-309/U	8900	5.15	4.23	3.55	3.06	2.70
UG-318/U	26700	5.94	4.87	4.09	3.53	3.11
UG-333A/U	82-107	17.44	14.30	12.01	.....	.....
UG-335/U	3025	5.55	4.55	3.82	3.30	2.90
UG-349/U	2975	5.31	4.36	3.66	3.16	2.78
UG-349A/U	31-217	3.63	2.98	2.50	2.16	1.90
UG-363/U	83-1F	3.35	2.75	2.31	1.99	1.76
UG-372/U	83-1HP	.73	.60	.50	.43	.38
UG-414/U	47000	2.56	2.10	1.76	1.52	1.34
UG-447/U	31-817	1.45	1.19	1.00	.86	.76
UG-491A/U	31-218	3.09	2.54	2.13	1.84	1.62
UG-492A/U	31-220	3.17	2.60	2.18	1.88	1.66
UG-495A/U	82-111	12.91	10.59	8.89	.....	.....
UG-496/U	82-92	4.11	3.37	2.83	2.44	2.15
UG-536/U	34000	3.09	2.54	2.13	1.84	1.62
UG-560/U	82-805	4.69	3.85	3.23	2.79	2.45
UG-564/U	82-508	4.57	3.75	3.15	2.72	.....
UG-565A/U	82-540	4.57	3.75	3.15	.....	.....
UG-567A/U	82-535	5.87	4.81	4.04	3.49	.....
UG-568/U	82-504	2.80	2.30	1.93	1.67	1.47
UG-572/U	82-503	3.33	2.73	2.29	.....	.....
UG-573A/U	82-530	3.38	2.78	2.33	2.01	1.77
UG-593/U	35500	5.55	4.55	3.82	.....	.....
UG-624/U	2075	2.44	2.00	1.68	.....	.....
UG-625B/U	31-236	.96	.79	.66	.57	.50
UG-628A/U	82-532	4.44	3.64	3.06	2.64	2.33
UG-634/U	82-515	4.44	3.64	3.06	2.64	2.33
UG-635/U	83175	4.79	3.93	3.30	2.85	.....
UG-636A/U	83200	5.21	4.28	3.59	3.10	2.73
UG-646/U	83-1AP	2.29	1.88	1.58	1.36	1.20
UG-657/U	31-102	1.54	1.26	1.06	.91	.81
UG-680/U	82-811	3.19	2.62	2.20	1.90	1.67
UG-709A/U	82-534	3.89	3.19	2.68	2.31	2.04
UG-710A/U	82-531	6.68	5.48	4.60	3.97	.....
UG-909/U	31-206	2.00	1.64	1.38	1.19	1.05
UG-910/U	31-207	2.22	1.82	1.53	1.32	1.16
UG-913/U	31-204	4.17	3.42	2.87	2.48	2.18
UG-914/U	31-219	1.57	1.29	1.08	.93	.82
UG-940A/U	82-212	3.56	2.92	2.45	.....	.....
UG-941A/U	82-204	3.33	2.73	2.29	.....	.....
UG-1034/U	5225	6.59	5.41	4.54	3.92	.....
UG-1094/U	31-221	.84	.69	.58	.50	.44
UG-1098/U	31-222	3.54	2.91	2.44	2.11	1.85
.....	31-026	.71	.58	.49	.42	.37
.....	13-105	1.77	1.45	1.22	1.05	.93
.....	31-842	1.82	1.49	1.25	.....	.....
.....	31-850	4.79	3.93	3.30	2.85	2.51
.....	82-112	2.85	2.33	1.96	1.69	1.49
.....	82-130	2.21	1.81	1.52	1.31	.....
.....	82-332	2.12	1.74	1.46	1.26	1.11
.....	82-333	2.09	1.72	1.44	.....	.....
.....	82-334	2.45	2.01	1.69	.....	.....
.....	82-335	3.62	2.97	2.49	.....	.....
.....	82-336	7.09	5.81	4.88	4.21	3.71
.....	82-337	2.09	1.72	1.44	.....	.....
.....	82-340	2.12	1.74	1.46	1.26	1.11
.....	82-352	2.98	2.44	2.05	1.77	.....
.....	82-352-1	2.98	2.44	2.05	1.77	.....
.....	82-356	2.58	2.12	1.78	.....	.....
.....	82-356-1	2.35	1.93	1.62	.....	.....
.....	82-357	7.84	6.43	5.40	4.66	.....

MIL No.	Amphenol Number	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
.....	82-360	$ 3.82	$ 3.13	$ 2.63	.....	.....
.....	82-360-1	3.82	3.13	2.63	.....	.....
.....	82-816	5.90	4.84	4.06	$3.50	$3.09
.....	82-833	10.19	8.36	7.02	6.06	5.34
.....	82-835	5.49	4.50	3.78	3.26	2.87
.....	82-856	10.38	8.52	7.15	6.17	5.43
.....	82-5370	2.57	2.11	1.77	1.53	.....
.....	82-5371	2.70	2.22	1.86	.....	.....
.....	82-5373	5.68	4.66	3.91	.....	.....
.....	82-5374	5.88	4.82	4.05	.....	.....
.....	82-5375	2.57	2.11	1.77	1.53	1.35
.....	82-5379	5.31	4.36	3.66	.....	.....
.....	82-5381	2.57	2.11	1.77	.....	.....
.....	83-1T	3.73	3.06	2.57	2.22	1.95
.....	83-59	6.13	5.03	4.22	3.64	3.21
.....	83-716	6.33	5.19	4.36	.....	.....
.....	83-850	4.62	3.79	3.18	.....	.....
.....	83-851	3.11	2.55	2.14	1.85	1.63
.....	83-877	2.15	1.76	1.48	1.28	1.12
.....	83-878	1.09	.89	.75	.65	.57
.....	131-1025	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1026	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1027	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1028	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1035	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1036	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1037	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1038	67.25*	54.00†	46.25‡	42.25§	38.50#
.....	131-1201	89.25*	71.50†	61.25‡	56.00§	51.00#
.....	131-1202	89.25*	71.50†	61.25‡	56.00§	51.00#
.....	901-101	2.70	2.22	1.86	1.61	.....
.....	901-102	2.15	1.76	1.48	1.28	.....
.....	901-103	3.57	2.93	2.46	2.12	.....
.....	901-104	2.93	2.41	2.02	1.74	.....
.....	901-105	3.17	2.60	2.18	1.88	.....
.....	901-106	3.17	2.60	2.18	1.88	.....
.....	901-107	4.30	3.53	2.96	2.55	.....
.....	901-108	4.01	3.29	2.76	2.38	.....
.....	901-109	2.69	2.20	1.85	1.60	.....
.....	901-110	2.15	1.76	1.48	1.28	.....
.....	901-111	3.69	3.03	2.54	2.19	.....
.....	901-112	2.50	2.05	1.72	1.48	.....
.....	901-113	1.63	1.33	1.12	.97	.....
.....	901-116	3.19	2.62	2.20	1.90	.....
.....	901-117	4.11	3.37	2.83	2.44	.....
.....	901-118	3.85	3.16	2.65	2.29	.....
.....	901-119	2.45	2.01	1.69	1.46	.....
.....	901-120	3.43	2.81	2.36	2.04	.....
.....	901-121	5.46	4.48	3.76	3.24	.....
.....	901-122	4.81	3.94	3.31	2.86	.....
.....	2800	9.95	8.16	6.85	5.91	.....
.....	4900	5.88	4.82	4.05	.....	.....
.....	5850	11.34	9.30	7.81	.....	.....
.....	12025	3.67	3.01	2.53	2.18	1.92
.....	21850	7.16	5.87	4.93	.....	.....
.....	32750	6.43	5.28	4.43	.....	.....
.....	34625	1.50	1.23	1.03	.89	.78
.....	34825	.....	.....	.99	.....	.....
.....	36650	1.79	1.46	1.23	1.06	.93
.....	36675	3.60	2.95	2.48	.....	.....
.....	36775	1.34	1.10	.92	.79	.70
.....	36800	1.86	1.52	1.28	1.10	.97
.....	36825	2.34	1.92	1.61	1.39	1.22
.....	36875	1.41	1.16	.97	.84	.74
.....	36900	1.93	1.58	1.33	.....	.....
.....	36925	2.12	1.74	1.46	1.26	1.11
.....	47200	4.28	3.51	2.95	2.55	.....
.....	47250	4.57	3.75	3.15	2.72	.....
.....	47275	4.56	3.74	3.14	.....	.....
.....	68150	2.09	1.72	1.44	1.24	.....
.....	68175	1.32	1.08	.91	.79	.69
.....	69350	2.34	1.92	1.61	.....	.....
.....	79025	6.65	5.45	4.58	3.95	3.48
.....	79675	4.73	3.88	3.26	2.81	2.48
.....	95575	5.24	4.30	3.61	3.12	2.74
.....	95600	5.20	4.26	3.58	3.09	2.72
.....	95625	5.39	4.42	3.71	3.20	.....
.....	95650	.....	.....	3.53	.....	.....
.....	95675	5.40	4.43	3.72	.....	.....
.....	95700	2.80	2.30	1.93	1.67	.....
.....	95725	2.70	2.22	1.86	1.61	1.41
.....	95750	2.80	2.30	1.93	1.67	1.47
.....	95800	2.90	2.38	2.00	.....	.....
.....	97750	2.73	2.24	1.88	.....	.....
.....	97775	3.19	2.62	2.20	.....	.....
.....	97825	.....	.....	2.29	.....	.....
.....	97875	6.13	5.03	4.22	.....	.....
.....	97900	6.03	4.94	4.15	3.58	3.15
.....	97925	6.13	5.03	4.22	.....	.....

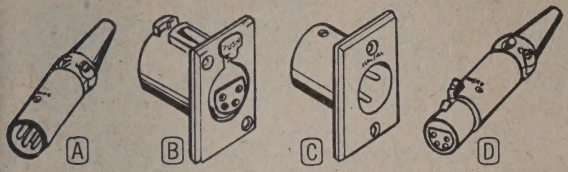
*Lots of: 1–9; †10–24; ‡25–49; §50–99; #100–249.

COMPLETE LINE OF RF CONNECTORS FOR PROMPT DELIVERY.

ASK FOR UNLISTED OR NON-STOCK ITEMS, AVAILABLE ON SPECIAL ORDER.

BUNKER RAMO AMPHENOL Audio Connectors

SERIES 91 MICROPHONE CONNECTORS



Low-cost, dependable audio-type Excellite connectors with latch-lock coupling; fully interchangeable with Qwik Series (below) and Cannon XLR series. Shells of tough molded ABS plastic, nickel-plated inside and out for best shielding. Copper alloy, silver-plated and chromate dipped contacts with solder cup termination.

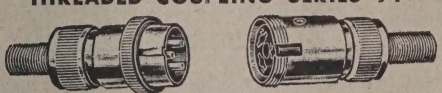
Amph. No. 91-	Fig.	No. of Cont. Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
453	A	3, Male plug	$1.308	$1.112	$0.981	$0.850	$0.807
454	D	3, Fem. jack	1.548	1.308	1.166	1.003	.948
455	C	3, Male recpt.	1.188	1.003	.872	.763	.719
456	B	3, Fem. recpt.	2.158	1.842	1.602	1.406	1.319
457	A	4, Male plug	1.45	1.243	1.079	.937	.883
458	D	4, Fem. jack	1.962	1.635	1.461	1.264	1.199
459	C	4, Male recpt.	1.417	1.199	1.046	.916	.85
460	B	4, Fem. recpt.	2.071	1.766	1.537	1.395	1.264
461	A	5, Male plug	2.311	1.995	1.766	1.526	1.363
462	D	5, Fem. jack	3.379	2.856	2.529	2.202	2.071
463	C	5, Male recpt.	1.799	1.548	1.341	1.166	1.112
464	B	5, Fem. recpt.	3.052	2.616	2.289	1.984	1.864

SERIES 91 QWIKS

Similar to above except bodies are diecast zinc with satin nickel plate. Bronze contacts are gold-plated over silver. Dielectric is blue diallyl phthalate. Easy push-button coupling.

853	E	3, Male plug	$2.06	$1.766	$1.537	$1.352	$1.221
854	H	3, Fem. jack	2.736	2.354	2.06	1.799	1.624
855	G	3, Male recpt.	1.602	1.373	1.199	1.046	.948
856	F	3, Fem. recpt.	3.793	3.259	2.845	2.496	2.256
857	E	4, Male plug	2.202	1.897	1.657	1.45	1.308
858	H	4, Fem. jack	3.107	2.671	2.333	2.038	1.842
859	G	4, Male recpt.	1.733	1.493	1.308	1.145	1.036
860	F	4, Fem. recpt.	4.088	3.51	3.063	2.681	2.431

THREADED COUPLING SERIES 91



Mounting hole, 27/64" diameter; maximum 1/8" thick panel. Three contacts, except (*), 4 contacts; (†), 6 contacts. Black phenolic dielectric chrome plated brass shells.

Amphenol No.	Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
91-CCC3	Cap and chain	$0.545	$0.469	$0.414	$0.36	$0.327
91-MC3F	Female jack	1.232	1.057	.927	.807	.73
91-MC3F1	Female plug	1.286	1.101	.959	.839	.763
91-MC3M	Male plug	1.21	1.036	.905	.796	.719
91-MC3M1	Male jack	1.155	.992	.861	.763	.687
91-MC4F	Female jack*	1.275	1.09	.959	.839	.752
91-MC4F1	Female plug*	1.341	1.145	1.003	.872	.796
91-MC4M	Male plug*	1.264	1.079	.948	.828	.752
91-MC4M1	Male jack*	1.21	1.046	.905	.796	.719
91-MC6F	Female jack†	1.308	1.134	.981	.861	.785
91-MC6F1	Female plug†	1.363	1.166	1.025	.894	.807
91-MC6M	Male plug†	1.275	1.101	.959	.839	.752
91-PC3F	Female recept.	.872	.752	.654	.567	.512
91-PC6F	Female rcpt.†	.894	.763	.665	.589	.534
91-PC3M	Male recept.	.785	.676	.589	.512	.469
91-PC4F	Female rcpt.*	.828	.719	.643	.545	.491
91-PC4M	Male recept.*	.796	.676	.589	.523	.469
91-PC6M	Male recept.†	.85	.73	.643	.556	.512

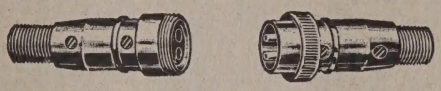
SERIES 75 MICROPHONE CONNECTORS

Unique button contact and threaded coupling permit plug conversion to jack by removal of coupling ring. Receptacles mount in .385" holes when grounding, .500" holes for ungrounded two circuit operation.

Amphenol No.	Description	Fig.	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
75-CCC1*	Cap and chain	....	$0.53	$0.48	$0.42	$0.372	$0.336
75-MC1F	Straight plug	A	.839	.719	.636	.551	.504
75-MC1FA	Angle plug	B	1.774	1.522	1.331	1.163	1.055
75-MC1M	Cable jack	C	.575	.504	.431	.384	.348
75-MC1P	Phone pl. adpt.	...	.815	.695	.612	.54	.48
75-MC1S	Mike switch	...	2.985	2.566	2.242	1.955	1.774
75-PC1M	Chassis recept.	D	.575	.504	.431	.384	.348

*May also be used with Series 80 connectors.

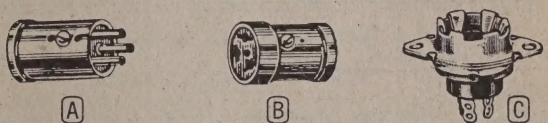
SERIES 80 MICROPHONE CONNECTORS



All mount in 5/8" hole. Maximum panel thickness for receptacles is 11/32". Single contacts, except (*), 2 contacts. Chrome finish.

Amphenol No.	Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
80-C	Female recept.	$0.719	$0.624	$0.54	$0.48	$0.431
80-M	Male plug	.911	.78	.683	.60	.54
80-MC2F	Female jack*	1.02	.876	.768	.671	.60
80-MC2F1	Female plug*	1.02	.876	.768	.671	.60
80-MC2M	Male plug*	.959	.815	.719	.624	.563
80-MC2M1	Male jack*	.959	.815	.719	.624	.563
80-PC2F	Female rcpt.*	.815	.695	.612	.528	.48
80-PC2M	Male recept.*	.791	.671	.587	.516	.468

MINIATURE CABLE CONNECTORS



Black phenolic dielectric in cadmium plated brass shell. Polarized contact spacing. Plugs and receptacles take cables up to 1/4" dia. Panel receptacle mounts in 7/8" hole with two 6-32 screw holes on 1 1/4" centers. Series 91 also available in short shell. Prices on request.

SERIES 91 PLUGS (FIG. A)

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
91-MPM-3L	3	$0.458	$0.392	$0.349	$0.305	$0.273
91-MPM-4L	4	.512	.447	.382	.338	.305
91-MPM-5L	5	.534	.458	.392	.349	.316
91-MPM-6L	6	.523	.447	.392	.338	.305

SERIES 91 RECEPTACLES (FIG. B)

91-MPF-3L	3	$0.556	$0.48	$0.414	$0.371	$0.327
91-MPF-4L	4	.60	.512	.447	.392	.36
91-MPF-5L	5	.567	.534	.469	.403	.371
91-MPF-6L	6	.632	.545	.48	.414	.382

PANEL RECEPTACLES (FIG. C)

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-PCG3	3	$0.567	$0.474	$0.423	$0.328	$0.292
78-PCG4	4	.679	.569	.508	.394	.351
78-PCG5	5	.711	.595	.532	.413	.366
78-PCG6	6	.725	.61	.542	.419	.373

SERIES 91T MINIATURE CABLE-TO-PANEL CONNECTORS

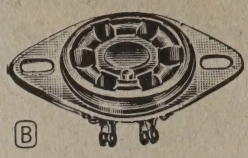
Approximately 33% smaller than above Series 91. Provide high density, low cost, top quality interconnections for microphones, recorders, two-way radios, industrial controls and data processing. Threaded coupling lock design.

No. of Contacts	CABLE PLUGS Straight: Amphenol Number	Net Each, Lots of 1-24	25-49	50-99*	CABLE PLUGS Right Angle: Amphenol Number	Net Each, Lots of 1-24	25-49	50-99*	PANEL RECEPTACLES: Amphenol Number	Net Each, Lots of 1-24	25-49	50-99*
2	91-T-3200-1	$1.177	$1.068	$1.014	91-T-3200-6	$1.875	$1.69	$1.602	91-T-3203-9	$0.85	$0.774	$0.73
3	91-T-3260-1	1.101	.992	.937	91-T-3260-6	1.679	1.515	1.439	91-T-3263-9	.883	.796	.752
4	91-T-3300-1	1.428	1.297	1.221	91-T-3300-6	1.973	1.788	1.70	91-T-3303-9	.992	.894	.85
5	91-T-3360-1	1.482	1.341	1.275	91-T-3360-6	2.06	1.864	1.766	91-T-3363-9	.883	.796	.752
6	91-T-3400-1	1.493	1.352	1.275	91-T-3400-6	2.082	1.886	1.788	91-T-3403-9	.992	.894	.85
7	91-T-3475-1	1.646	1.493	1.417	91-T-3475-6	2.224	2.017	1.908	91-T-3478-9	1.123	1.014	.97
12	91-T-3635-1	2.605	2.365	2.235	91-T-3635-6	3.161	2.856	2.703	91-T-3638-9	3.75	3.401	3.216

★LARGER QUANTITY PRICES ON REQUEST

BUNKER RAMO AMPHENOL Tube Sockets

A


B

C

D

E

F

MIP MOLDED-IN-PLATE SOCKETS (FIG. A)

Steel mounting plate molded in black phenolic body; can't come loose. Mounts in 1 3/16" hole with two 5/32" holes on 1 1/2" centers.

Amphenol No. 77-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
MIP4	4	$0.29	$0.243	$0.217	$0.168	$0.15
MIP4T*	4	.32	.267	.24	.186	.165
MIP4TM§	4	.436	.363	.325	.252	.228
MIP5	5	.318	.266	.24	.185	.164
MIP6	6	.348	.292	.262	.202	.182
MIP7S	7 Small	.376	.316	.281	.217	.195
MIP8	8 Octal	.315	.264	.235	.183	.163
MIP8T*	8 Octal	.337	.282	.253	.198	.174
MIP8TM§	8 Octal	.472	.396	.354	.276	.243
MIP9	9	.362	.303	.271	.21	.187
MIP11	11	.372	.311	.278	.216	.191
MIP11T*	11	.448	.374	.336	.259	.23
MIP11TM§	11	.652	.545	.488	.377	.336
MIP12	12	.431	.36	.322	.25	.222
MIP12TM§	12	.60	.498	.444	.348	.307
MIP20‡	20	.844	.707	.631	.492	.436

*Mica filled. ‡Fits 1 5/16" hole. §MIL version; mica-filled phenolic with silver-plated contacts and stainless steel mounting plate.

TYPE RS REPLACEMENT SOCKETS (FIG. B)

Same as Type "S" but with retainer rings in nickel-plated steel mounting rings. Replaces wafer types. Slotted holes in mounting ring fit 1 1/2" to 1 55/64" mtg. centers. Uses 6-32 screw. Black phenolic.

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
RS4	4	$0.352	$0.294	$0.264	$0.203	$0.181
RS5	5	.379	.317	.282	.219	.195
RS8	8 Octal	.383	.32	.287	.222	.198
RS9	9	.422	.354	.317	.245	.217
RS11	11	.504	.421	.378	.292	.259

TYPE S MOLDED SOCKETS (FIG. C)

Retainer ring mounted. Mounting hole dia., 1 3/16". Black phenolic.

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S4	4	$0.287	$0.238	$0.213	$0.165	$0.147
S5	5	.303	.254	.227	.176	.156
S6	6	.332	.278	.249	.193	.172
S7S	7 Small	.358	.30	.268	.207	.186
S8	8 Octal	.288	.24	.215	.165	.149
S8T*	8 Octal	.332	.278	.249	.193	.172
S9	9	.326	.271	.244	.189	.167
S11	11	.374	.314	.269	.217	.193
S11T*	11	.423	.354	.317	.245	.218
S12	12	.386	.323	.29	.225	.20
S16	16	.495	.415	.371	.288	.255
7P†	7 Min.	.483	.404	.361	.28	.249
A9P†	9 Min.	.51	.432	.383	.29	.266

*Mica-filled. †Miniature.

MINIATURE TYPE S SOCKETS

These low cost sockets can be used for vacuum tubes, relays, input or output cable connections and where standard size sockets will not fit. Solderless wrap types mount in 5/8" dia. round or D shaped panel cut out; friction type retainer ring included. PC board types mount thru 1/16" dia. holes in PC boards arranged in proper pin circle dia. Contact shoulders prevent socket from bottoming, allow clearance for air circulations and cleaning.

PC TERMINATION

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S3SW-0125	3	$0.174	$0.147	$0.13	$0.101	$0.091
S4SW-0125	4	.259	.217	.194	.151	.134
S5SW-0125	5	.267	.224	.201	.155	.139
S6SW-0125	6	.272	.23	.204	.158	.141

SOLDERLESS WRAP TERMINATION

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S3SW-0500*	3	$0.215	$0.18	$0.162	$0.126	$0.111
S4SW-0500*	4	.301	.252	.225	.174	.154
S3SW-0525†	3	.218	.183	.164	.127	.112
S4SW-0525†	4	.344	.289	.258	.201	.177

Contacts: *Standard, .016" thick; †heavy duty, .025" thick.

MIP MOLDED-IN-PLATE SOCKETS

Mounting plate molded in phenolic body. Contacts of copper alloy. PC contacts are 5/32" lg., with .125" tapered lead-in. Solderless wrap contacts are cadmium plated. and "tuning fork" shaped for low resistance; talls 1/16" w. x 1/2" lg.

PC TERMINATION (FIG. D)

Amphenol No. 77-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
MIP8W-0125	8	$0.392	$0.328	$0.294	$0.228	$0.202
MIP9W-0125	9	.44	.369	.329	.254	.282
MIP11W-0125	11	.471	.396	.352	.274	.243
MIP12W-0125	12	.492	.411	.369	.284	.254
MIP20W-0125	20	.844	.707	.631	.49	.436

SOLDERLESS WRAP TERMINATION (FIG. E)

MIP8W-0500*	8	$0.438	$0.367	$0.329	$0.254	$0.226
MIP9W-0500*	9	.485	.405	.363	.282	.251
MIP11W-0500*	11	.547	.458	.408	.317	.282
MIP12W-0500*	12	.569	.475	.33	.329	.293
MIP8W-0525†	8	.468	.391	.351	.27	.237
MIP9W-0525†	9	.506	.424	.378	.294	.262
MIP11W-0525†	11	.569	.476	.425	.329	.293
MIP12W-0525†	12	.59	.493	.46	.341	.304

Contacts: *Standard, .016" thick; †heavy duty, .025" thick.

TYPE S SOCKETS

Same as MIP but retaining ring style.

PC TERMINATION

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S8W-0125	8	$0.358	$0.30	$0.268	$0.207	$0.184
S9W-0125	9	.385	.322	.29	.225	.20
S11W-0125	11	.393	.329	.294	.229	.209
S12W-0125	12	.402	.336	.301	.233	.202
S16W-0125	16	.496	.415	.372	.288	.255

SOLDERLESS WRAP TERMINATION

S8W-0500*	8	$0.41	$0.343	$0.307	$0.238	$0.212
S9W-0500*	9	.438	.368	.329	.256	.227
S11W-0500*	11	.446	.374	.335	.259	.258
S12W-0500*	12	.487	.407	.366	.282	.259
S8W-0525†	8	.415	.347	.31	.242	.214
S9W-0525†	9	.443	.371	.332	.257	.229
S11W-0525†	11	.45	.378	.338	.261	.233
S12W-0525†	12	.491	.412	.366	.287	.238

Contacts: *Standard, .016" thick; †heavy duty, .025" thick.

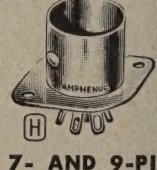
SERIES 88 COMPACT TUBE SOCKETS (FIG. F)

Black phenolic body; fit 1 1/8" mounting holes on 1 5/16" centers.

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
88-8	8 Octal	$0.366	$0.306	$0.276	$0.213	$0.189
88-8TM*	8 Octal	.455	.382	.343	.265	.236
88-8X	8 Loctal	.549	.459	.414	.319	.283

*Mica-filled; with silver plated contacts; stainless steel mtg. plate.

G



H

I

MINIATURE 7- AND 9-PIN SOCKETS

Fig. G Type: Retainer ring style fits D-shaped or round hole 5/8" dia. **Fig. H and I Types:** Shielded types mount above chassis; unshielded, below chassis. Min. 7-pin sockets fit 3/4" hole with 1/8" mtg. centers; 9-pin sockets fit 3/4" hole, 1 1/8" centers.

Amph. No.	Fig.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-S3S	G	3	$0.169	$0.142	$0.127	$0.099	$0.087
78-S4S	G	4	.255	.213	.191	.149	.131
78-S5S	G	5	.268	.224	.201	.155	.139
78-S6S	G	6	.272	.229	.204	.158	.141
78-7P	G	7	.483	.404	.361	.28	.249
147-500	I	7	.476	.396	.354	.276	.246
147-504	I	7	.422	.353	.316	.245	.219
147-505	I	7	.489	.409	.367	.284	.253
59-409	I	9	.508	.424	.381	.294	.26
59-410	I	9	.52	.436	.393	.306	.27
147-905	H	7	.576	.482	.431	.335	.298
147-913	H	7	.574	.48	.43	.334	.297
147-916	H	7	.668	.558	.501	.389	.346

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST

CURTIS Terminal Blocks

GFT

GBS

GBFT

CBS

CBP

CFT

SERIES GFT FEED-THRU TERMINAL BLOCKS

Fully insulated, feed-thru design eliminates costly insulating and mounting procedures. Molded of black thermosetting phenolic with up to 26 terminals. Insulation provides full ¼″ terminal to ground clearance even thru 1/16″ chassis. Marking strip available in white fibre for all size blocks; mounts beneath block. Takes wire sizes up to #12 AWG. CSA Approved when lugs are used for wires larger than #16 AWG. **Rated:** 20 amps, 300 volts. **Size and Mounting:** Block 3/16″ wide; see table for length. Barriers extend width to 2 3/32″ x 1 7/32″ h. above mtg. surface. Bottom terminations extend approx. 35/64″ below mtg. surface. Two .190″ dia. mtg. holes provided at each end (see table below for spacing); All units available without mounting positions; to order, add suffix **C** (i.e., GFT**C**, GFTP**C**, etc.); same price. **Terminals:** Spaced 7/16″ on centers. **GFT:** Internal solder connection; external #6-32 screws spaced 7/16″. Bright tin plated. **GFTA:** Same, but #8-32 screw size. **GFTS:** Internal and external #6-32 terminal screws. **GFTP:** Printed circuit pin, bright tin plated for soldering ease. **GFTT:** Bright tin plated inserts have entrance in turret for #53 taper pin; other taper pin inserts available. External #6-32 terminal screws.

No. of Terminals‡	Mtg. Ctrs., In.	Overall Lgth., In.	"C" Overall Lgth.*, In.	Net Each, Lots of 1-9			
				GFT †	GFTP †	GFTS †	GFTT †
1	7/8	1 7/32	3/16	$0.29	$0.31	$0.40	$0.31
2	1 5/16	1 21/32	1	.53	.57	.70	.57
3	1 3/4	2 3/32	1 7/16	.77	.84	1.01	.84
4	2 3/16	2 17/32	1 7/8	1.01	1.10	1.32	1.10
5	2 5/8	2 31/32	2 5/16	1.25	1.36	1.63	1.36
6	3 1/16	3 13/32	2 3/4	1.50	1.63	1.94	1.63
7	3 15/32	3 13/16	3 5/32	1.74	1.89	2.24	1.89
8	3 29/32	4 1/4	3 19/32	1.98	2.16	2.55	2.16
9	4 11/32	4 11/16	4 1/32	2.22	2.42	2.86	2.42
10	4 25/32	5 1/8	4 15/32	2.46	2.68	3.17	2.68
11	5 1/32	5 9/16	4 29/32	2.71	2.95	3.48	2.95
12	5 21/32	6	5 11/32	2.95	3.21	3.78	3.21
13	6 3/32	6 7/16	5 25/32	3.19	3.48	4.09	3.48
14	6 17/32	6 7/8	6 7/32	3.43	3.74	4.40	3.74
15	6 31/32	7 5/16	6 21/32	3.67	4.00	4.71	4.00
16	7 13/32	7 3/4	7 3/32	3.92	4.27	5.02	4.27
17	7 27/32	8 3/16	7 17/32	4.16	4.53	5.32	4.53
18	8 9/32	8 5/8	7 31/32	4.40	4.80	5.63	4.80
19	8 23/32	9 1/16	8 13/32	4.64	5.06	5.94	5.06
20	9 5/32	9 1/2	8 27/32	4.88	5.32	6.25	5.32
21	9 9/16	9 23/32	9 1/4	5.13	5.59	6.56	5.59
22	10	10 1/32	9 1/16	5.37	5.85	6.86	5.85
23	10 7/16	10 25/32	10 1/8	5.61	6.12	7.17	6.12
24	10 7/8	11 7/32	10 9/16	5.85	6.38	7.48	6.38
25	11 5/16	11 21/32	11	6.09	6.64	7.79	6.64
26	11 3/4	12 3/32	11 7/16	6.34	6.91	8.10	6.91

SERIES GB TERMINAL BLOCKS

Adaptation of popular GFT Series. Construction (and CSA Approval) same as GFT Series, except **Terminals: GBS:** Surface mount (not feed-thru) type has molded-in inserts and #6-32 binder head screws. **GBSA:** Same as GBS, but #8-32 binder head screws. **GBFT:** Feed-thru flat-base design with bright tin plated turret type solder terminal and #6-32 screw connection. **GBP:** Same as GBFT but termination is insert with .062″ dia. PC pin.

No. of Terminals‡	Mtg. Ctrs., In.	Overall Length, In.	"C" Overall Length*, In.	Net Each, Lots of 1-9		
				GBS	GBSA	GBP†, GBFT†
1	7/8	1 7/32	3/16	$0.26	$0.28	$0.29
2	1 5/16	1 21/32	1	.44	.48	.48
3	1 3/4	2 3/32	1 7/16	.62	.68	.68
4	2 3/16	2 17/32	1 7/8	.79	.87	.88
5	2 5/8	2 31/32	2 5/16	.97	1.07	1.08
6	3 1/16	3 13/32	2 3/4	1.14	1.26	1.28
7	3 15/32	3 13/16	3 5/32	1.32	1.46	1.47
8	3 29/32	4 1/4	3 19/32	1.50	1.66	1.67
9	4 11/32	4 11/16	4 1/32	1.67	1.85	1.87
10	4 25/32	5 1/8	4 15/32	1.85	2.05	2.07
11	5 1/32	5 9/16	4 29/32	2.02	2.24	2.27
12	5 21/32	6	5 11/32	2.20	2.44	2.46
13	6 3/32	6 7/16	5 25/32	2.38	2.64	2.66
14	6 17/32	6 7/8	6 7/32	2.55	2.83	2.86
15	6 31/32	7 5/16	6 21/32	2.73	3.03	3.06
16	7 13/32	7 3/4	7 3/32	2.90	3.22	3.26
17	7 27/32	8 3/16	7 17/32	3.08	3.42	3.45
18	8 9/32	8 5/8	7 31/32	3.26	3.62	3.65
19	8 23/32	9 1/16	8 13/32	3.43	3.81	3.85
20	9 5/32	9 1/2	8 27/32	3.61	4.01	4.05
21	9 9/16	9 23/32	9 1/4	3.78	4.20	4.25
22	10	10 1/32	9 1/16	3.96	4.40	4.44
23	10 7/16	10 25/32	10 1/8	4.14	4.60	4.64
24	10 7/8	11 7/32	10 9/16	4.31	4.79	4.84
25	11 5/16	11 21/32	11	4.49	4.99	5.04
26	11 3/4	12 3/32	11 7/16	4.66	5.18	5.24

*For units less mtg. positions (i.e., GFT**C**-2, GBS**C**-1, etc.). †Available with #8-32 terminal screws; add letter **A** to prefix (i.e., GFT**A**, GBFT**A**, etc.) and **2c** per pole to price. ‡.250″ x .032″ and .188″ x .020″ tab terminals also available on special request.

SERIES CB BARRIER TERMINAL BLOCKS

For use with wire up to #14AWG. Solid molded base of black high-impact thermoplastic and improved high barrier design meet full 300 volt clearance and creepage requirements set by UL. Breakdown voltage exceeds 5500 volts. A 20 amp/300 volt rating makes them ideal for electronic or control applications. These units are available in 1 through 26 terminals on compact 3/8″ centers. Type CBS has a closed-back design which can be mounted on a metal surface with no additional insulation required. Type CBFT has bright tin-plated turret-type solder pins. Type CBP is a printed-board design with bright tin-plated .072″ dia. solder pins. **Size and mounting:** Block ½″ wide; see table for length. Barriers extend to 5/8″ w. x 1 1/32″ above top of block.

No. of Terminals	Mtg. Centers (In. ± 1/32″)	Overall Length (In. ± 1/32″)	Net Each, Lots of 1-9	
			CBS	CBP CBFT
1	3/4	1 1/16	$0.15	$0.25
2	1 1/8	1 7/16	.25	.40
3	1 1/2	1 13/16	.34	.55
4	1 7/8	2 3/16	.44	.70
5	2 1/4	2 9/16	.53	.85
6	2 5/8	2 15/16	.63	1.00
7	3	3 5/16	.72	1.15
8	3 3/8	3 11/16	.82	1.30
9	3 3/4	4 1/16	.91	1.45
10	4 1/8	4 7/16	1.01	1.60
11	4 1/2	4 13/16	1.10	1.75
12	4 7/8	5 3/16	1.20	1.90
13	5 1/4	5 9/16	1.29	2.05
14	5 5/8	5 15/16	1.39	2.20
15	6	6 5/16	1.48	2.35
16	6 3/8	6 11/16	1.58	2.50
17	6 3/4	7 1/16	1.67	2.65
18	7 1/8	7 7/16	1.77	2.80
19	7 1/2	7 13/16	1.86	2.95
20	7 7/8	8 3/16	1.96	3.10
21	8 1/4	8 9/16	2.05	3.25
22	8 5/8	8 15/16	2.15	3.40
23	9	9 5/16	2.24	3.55
24	9 3/8	9 11/16	2.34	3.70
25	9 3/4	10 1/16	2.43	3.85
26	10 1/8	10 7/16	2.53	4.00

Typical stock number—CBFT-10.
Add C to letter designation for no mounting ears—CBFTC-10.

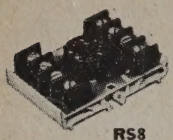
SERIES CFT BARRIER TERMINAL BLOCKS

These terminal blocks are designed for applications requiring the basic design of the GFT Series but where space is an important factor. These compact blocks are nearly 15% smaller than the GFT blocks. The 20 amp/300 volt rating makes them well suited for electronic and control applications. The improved high barrier design meets the full UL 300 volt clearance and creepage requirements with breakdown voltage exceeding 5500 volts. The blocks are molded of black thermoplastic. Full feed-thru insulation provides ¼″ terminal-to-ground clearance through 1/16″ metal. Type CFT has bright tin-plated brass turret solder pins. Type CFTP is a printed-board design with bright tin-plated .072″ dia. solder pins. **Size and mounting:** Block ½″ wide; see table for length. Barriers extend to 5/8″ w. x 1 1/32″ above top of block.

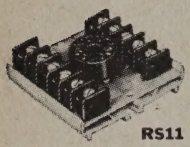
No. of Terminals	Mtg. Centers (In. ± 1/32″)	Overall Length (In. ± 1/32″)	Net Each, Lots of 1-9
			CFT & CFTP
1	3/4	1 1/16	$0.20
2	1 1/8	1 7/16	.38
3	1 1/2	1 13/16	.55
4	1 7/8	2 3/16	.73
5	2 1/4	2 9/16	.90
6	2 5/8	2 15/16	1.08
7	3	3 5/16	1.25
8	3 3/8	3 11/16	1.43
9	3 3/4	4 1/16	1.60
10	4 1/8	4 7/16	1.78
11	4 1/2	4 13/16	1.95
12	4 7/8	5 3/16	2.13
13	5 1/4	5 9/16	2.30
14	5 5/8	5 15/16	2.48
15	6	6 5/16	2.65
16	6 3/8	6 11/16	2.80
17	6 3/4	7 1/16	2.95
18	7 1/8	7 7/16	3.10
19	7 1/2	7 13/16	3.25
20	7 7/8	8 3/16	3.40
21	8 1/4	8 9/16	3.55
22	8 5/8	8 15/16	3.70
23	9	9 5/16	3.85
24	9 3/8	9 11/16	4.00
25	9 3/4	10 1/16	4.15
26	10 1/8	10 7/16	4.30

Typical stock number—CFT-10.
Add C to letter designation for no mounting ears—CFTC-10.

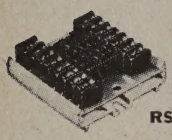
CURTIS Relay Socket Assemblies



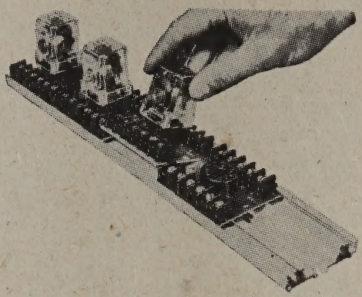
RS8



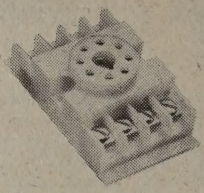
RS11



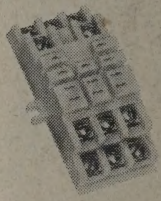
RS15



Four RS11 Assemblies On Vinyl Track With End Clips Attached



CUS8



CUS12

CUS16

RELAY SOCKET ASSEMBLIES

Compact, printed circuit relay socket assemblies sold as individual units for factory-assembled on vinyl track. Each socket assembly has barrier-type terminal blocks with brass machine screw inserts and nickel-plated terminal screws. Terminals are permanently marked. PC board is G-10 glass epoxy; wave soldered and coated for moisture protection and insulation. Pre-punched vinyl track allows a minimum of mounting time and requires only 2 or 3 mounting screws for a track (vs the usual 2 screws per socket); lengths to 48″ permit mounting up to 24 socket assemblies. Sockets snap-in or remove vertically; won't disturb adjacent units. Track has spring retention to eliminate sliding and provide base insulation. Sockets may be widely spaced for marking strip insertion. Tinnerman clips are available for end retention in vertical mounting or where high vibration occurs. Socket assemblies are CSA Approved. **RS8 Socket:** Octal socket rated 10 amps, 250 volts. Eight barrier terminals (4 per side), spaced 7/16″ on centers, have #6-32 screws; take one #12 AWG wire (#16 AWG with lugs) per terminal. Socket has recessed, slotted center post chamber with clearance hole for relays with screws in center post. Socket board size, 2¾″ w. x 2″ lg. x 1³⁄₃₂″ h. to fit TR2 track (24 assemblies max. for 48″ lg. track). Two mounting holes 3/16″ dia. spaced 1¹1/16″ on centers. **RS11 Socket:** 11-pin socket version of above (5 and 6 barrier terminals per side); board is 2⅞″ lg. (mtg. holes spaced 2⁹⁄₁₆″ on centers) for 16 max. assemblies on TR2, 48″ lg. track. Other specifications same as RS8. **RS15 Socket:** Has 15-pin receptacle for miniature 4PDT relays with 2 coil leads and ground; rated 5 amps, 225 volts. Barrier terminal screws (numbered 1 thru 14, plus ground) are #2-56 with surface clamps; for wires to #16 AWG, terminals spaced ¼″ on centers. Socket board size, 2³⁄₁₆″ w. x 2¼″ lg. x ²⁹⁄₃₂″ h. to fit TR1 track (21 assemblies max. on 48″ track). Two mounting holes 3/16″ dia. spaced 1¹5/16″ on centers. **How to Order:** For individual sockets (without track), specify RS8, RS11 or RS15. For units on continuous 1-piece precut track, add suffix to indicate number of sockets required; e.g., RS8-2 for 2 sockets. Minimum size unit: 1 socket in track, all models. Maximum size unit: 24 per track, RS8; 16 per track, RS11; 21 per track, RS15.

For Lots of	Net Each Relay Socket Assembly					
	Type RS8		Type RS11		Type RS15	
	No Track	With Track	No Track	With Track	No Track	With Track
1–9	$2.26	$2.46	$3.22	$3.44	$5.19	$5.39
10–24	2.09	2.29	2.98	3.18	4.80	5.00
25–49	1.91	2.11	2.72	2.92	4.38	4.58
50–99	1.74	1.94	2.48	2.68	3.99	4.19
100–249	1.63	1.83	2.31	2.51	3.73	3.93
Net/100	C43563-017-4—Track end retaining clip.....3.00					

PREPUNCHED VINYL TRACK

Handy vinyl (165° F) prepunched track for quick mounting of socket assemblies for PC applications. Choice of 3 sizes, all 48″ long with prepunched ⅝″ lg. x 3/16″ w. slots spaced 2″ on centers (other spacing available on special order).

Curtis Number	For Socket Width, In.	Size, Inches W. x Lg. x Th.	Net Each
TR1	2³⁄₁₆	2⁵⁄₁₆ x 48 x 5/16	$2.15
TR2	2¾	2⅞ x 48 x 5/16	2.55
TR3	3¼	3⅜ x 48 x 5/16	3.15

CUS SERIES UNITIZED RELAY SOCKET ASSEMBLIES

Compact molded relay socket assemblies sold as individual units for assembly on Curtis molded vinyl socket track. Model CUS8 mounts on the TR2 track, and the CUS12 and CUS16 mount on the TR3 track, or all can be front-panel mounted. The closed-back design eliminates the need for additional insulation. Each socket assembly has barrier-type terminal blocks with each terminal permanently numbered. **CUS8 Socket:** Octal socket (rated 10 amps, 300 volts) and eight barrier terminals (4 per side, space. .322″ max.) are molded in UL approved white nylon. Terminal screws (#6-32 with captive nuts) are tin-plated and will accept #20 to #12 AWG wire. **Size:** 2¾″ l. x 1⁹⁄₁₆″ w. Thirty sockets can be mounted in a 4 ft. TR2 track. Two mounting holes .147″ dia. spaced 1⁵⁄₁₆″ on centers. **CUS12 Socket:** Eleven-pin receptacle accepting popular 3PDT square-base, barrier-type, plug-in relays. Rated 15 amps/250 volts. Molded of UL approved thermoplastic. Terminal screws are plated #6-32 and will accept up to #14 AWG wire. **Size:** 3¼″ l. x 1³⁄₃₂″ w. Up to 28 sockets can be mounted in a 4 ft. TR3 track. The mounting tabs will interlock and provide individual or ganged panel mounting. Individual mounting centers are 1.7″. **CUS16 Socket:** Same as the CUS12 Socket except incorporating an 8-pin unitized receptacle for the popular DPDT square-base, barrier-type, plug-in relays.

CUS8 Socket—Net Each, Lots of 1–9.....**$1.41**
10–24.....**$1.34**; 25–49.....**$1.28**; 50–99..... **1.22**

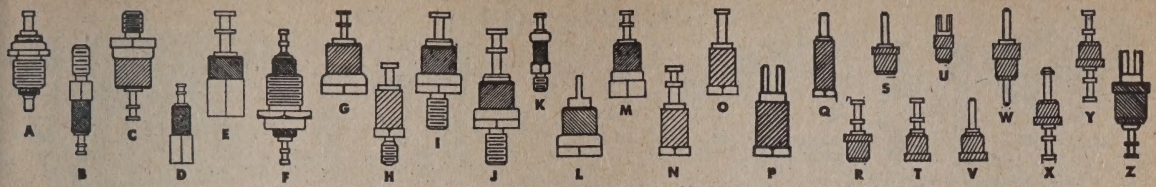
CUS12 Socket—Net Each, Lots of 1–9.....**$3.25**
10–24.....**$2.95**; 25–49.....**$2.60**; 50–99..... **2.29**

CUS16 Socket—Net Each, Lots of 1–9.....**$3.00**
10–24.....**$2.70**; 25–49.....**$2.40**; 50–99..... **2.06**

CAMBRIDGE THERMIONIC CORPORATION

CAMBION®

INSULATED TERMINALS, HANDLES AND BOARDS



STUD-TAPPED AND RIVET-MOUNTING INSULATED TERMINALS

Insulating Material: Teflon for Nos. 1502 thru 1511, 1945 and 1947; phenolic for 1581 and 1795; diallyl for 4810 thru 4895; all others ceramic.

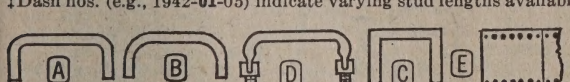
Cambion Number*	MIL-T-55155 Number	Fig.	Net Each, Lots of§ 10-99	100-499	500-999	1000-2499	2500-4999*
1502-01-0519	FT20XA01	A	$0.80	$0.62	$0.57	$0.50	$0.47
1503-01-0519†	SE09(0/9)E01	B	.51	.39	.36	.32	.30
1504-01-0519†	SE09(0/9)E02	B	.51	.39	.36	.32	.30
1510-01-0519†	SE10(0/9)D01	D	.51	.39	.36	.32	.30
1511-01-0519†	SE10(0/9)D02	E	.51	.39	.36	.32	.30
1581-01-01	.....	C	.51	.39	.36	.32	.30
1581-03-01	.....	C	.51	.39	.36	.32	.30
1581-05-01	.....	C	.51	.39	.36	.32	.30
1795-01-01	.....	F	.88	.68	.62	.55	.52
1942-01/02-05‡	SE21X03/05	C	.55	.42	.39	.35	.32
1942-01/02-01‡	.....	C	.55	.42	.39	.35	.32
1945-01-0519	.....	C	.74	.57	.53	.47	.44
1945-02-0519	.....	C	.74	.57	.53	.47	.44
1947-01-0519	.....	G	.80	.62	.57	.50	.47
1947-02-0519	.....	G	.80	.62	.57	.50	.47
1980-01-01	.....	I	.53	.41	.38	.33	.31
1980-05-01	.....	I	.53	.41	.38	.33	.31
1983-05-01	.....	I	.53	.41	.38	.33	.31
1990-01-01	.....	F	1.06	.82	.75	.67	.63
1990-01-05	FT01XA01	F	1.06	.82	.75	.67	.63
1992-05-01	.....	I	.53	.41	.38	.33	.31
1994-01-01	.....	J	.53	.41	.38	.33	.31
1994-02-01	.....	J	.53	.41	.38	.33	.31
1995-01-01	.....	I	.53	.41	.38	.33	.31
2012-01-05	FT01XA02	F	1.88	1.45	1.33	1.18	1.11
2012-01-01	.....	F	1.88	1.45	1.33	1.18	1.11
2045-01/02-05‡	SE21XE01/2	C	.55	.42	.39	.35	.32
2045-01/02-01‡	.....	C	.55	.42	.39	.35	.32
2255-01/03-05‡	SE22XE01/3	K	.55	.42	.39	.35	.32
2255-01/03-03‡	.....	K	.67	.52	.48	.42	.40
2384-02-01	.....	L	.80	.62	.57	.50	.47
2432-01/02-01‡	.....	L	.68	.52	.48	.43	.40
3648-01/02-01‡	.....	M	.55	.42	.39	.35	.32
3650-01/02-01‡	.....	M	.55	.42	.39	.35	.32
4810-01-0516	.....	B	.40	.31	.28	.25	.24
4814-01-0516†	SE20(0/9)D01	N	.45	.35	.32	.28	.27
4815-01-0516	.....	N	.45	.35	.32	.28	.27
4820-01-0516†	SE20(0/9)D02	N	.52	.40	.37	.33	.31
4826-01-0516	.....	N	.45	.35	.32	.28	.27
4827-01-0516	.....	N	$0.45	$0.35	$0.32	$0.28	$0.27
4838-01-0516†	SE19(0/9)E01	O	.45	.35	.32	.28	.27
4862-01-0516	.....	P	.51	.39	.36	.32	.30
4863-01-0516	.....	P	.51	.39	.36	.32	.30
4870-01-0516	.....	H	.37	.28	.26	.23	.22
4872-01-0516	.....	O	.40	.31	.28	.25	.24
4878-01-0516	.....	O	.40	.31	.28	.25	.24
4884-01-0516	.....	Q	.40	.31	.28	.25	.24
4894-01-0516†	SE18(0/9)E01	H	.37	.28	.26	.23	.22
4895-01-0516†	SE18(0/9)E02	H	.40	.31	.28	.25	.24

*Suffix **-05** (e.g., 1502-01-**05**19) indicates electro-solder plating; **-01**, silver plating; **-03**, gold plating. †Suffix indicates standard color: **16**, blue for diallyl units; **19**, white for Teflon units. MIL-T-55155 dash numbers (**0/9**) indicate range of colors available. Colors other than standard may be made to order in min. of 500 unit quantities: for diallyl, add **$0.01** ea.; for Teflon, add **$0.02** ea. To order nonstandard colors, replace **19** or **16** final endings of Cambion No. with: **-11**, brown; **-12**, red; **-13**, orange; **-14**, yellow; **-15**, green; **-17**, violet; **-18**, gray. ‡Dash nos. (e.g., 1942-**01**-05) indicate varying stud lengths available; specify with order. §Min. std. pkg. is 50 pcs. •Reg. DuPont T.M.

TEFLON• PRESS-MOUNT INSULATED TERMINALS

Easy mounting: Press into hole for permanent, rigid installation.

Cambion Number*	MIL-T-55155 Number	Fig.	Net Each, Lots of§ 10-99	100-499	500-999	1000-2499
4015-01-0519	.....	R	$0.30	$0.21	$0.19	$0.17
4025-01/03-0519‡	.....	R	.27	.19	.17	.16
4026-01/03-0519‡	.....	R	.30	.21	.19	.17
4027-01/03-0519‡	.....	R	.30	.21	.19	.17
4029-01-0519†	SE08(0/9)B01	S	.25	.17	.16	.15
4033-01/02-0519‡	.....	T	.30	.21	.19	.17
4034-01/03-0519‡	.....	T	.30	.21	.19	.17
4051-01-0519†	SE07(0/9)B01	R	.30	.21	.19	.17
4078-01-0519	.....	R	.33	.23	.21	.19
4115-01-0519	.....	R	.39	.27	.25	.23
4122-01-0519	.....	U	.60	.42	.38	.35
4132-01-0519	.....	U	.60	.42	.38	.35
4140-01-0519†	SE07(0/9)B02	R	.25	.17	.16	.15
4152-01-0519†	FT05(0/9)B01	S	.33	.23	.21	.19
4167-01-0519†	FT06(0/9)B01	V	.30	.21	.19	.17
4168-01-0519†	FT05(0/9)B02	S	.30	.21	.19	.17
4176-01-0519†	FT03(0/9)B02	W	.30	.21	.19	.17
4182-01/03-0519‡	.....	X	.30	.21	.19	.17
4185-01-0519†	FT04(0/9)B01	X	.30	.21	.19	.17
4188-01-0519†	FT03(0/9)B01	W	.25	.17	.16	.15
4193-01-0519†	FT05(0/9)B03	S	.25	.17	.16	.15
4194-01-0519†	FT06(0/9)B02	V	.30	.21	.19	.17
4197-01-0519†	FT04(0/9)B02	X	.30	.21	.19	.17
4263-01-0519	.....	Y	.48	.34	.31	.28
4267-01-0519	.....	Z	.60	.42	.38	.35
4281-01-0519†	FT03(0/9)B03	W	.30	.21	.19	.17
4410-01-0319	.....	W	.36	.25	.23	.21



HANDLES

Cambion Number	Fig.	Metal	Mtg. Ctrs., In.	Ht., In.	Net Each, Lots 10-99	100-499
1075-01-02	A	Brass*	4.562	1	$2.30	$2.02
1220-01-02	A	Brass*	1.25	1	2.20	1.92
1220-02-02	A	Brass*	2.0	1	2.30	2.02
1220-03-02	A	Brass*	3.0	1	2.38	2.08
1250-01-02	A	Brass*	2.0	1.312	1.92	1.68
1250-02-02	A	Brass*	3.0	1.312	2.07	1.81
1258-01-02	B	Brass*	.875	.520	.97	.85
1264-01-02	A	Brass*	3.0	1.312	2.07	1.81
1270-01-14	A	Alum.†	4.0	1.875	2.38	2.08
1278-01-14	C	Alum.†	2.0	1.500	1.71	1.49
1278-02-14	C	Alum.†	4.0	1.500	1.97	1.72
1280-03-02	A	Brass*	4.0	1.50	2.10	1.84
1290-02-14	A	Alum.†	3.0	1.50	1.53	1.34
1290-03-14	A	Brass†	4.0	1.50	1.79	1.57
1900-01-02	D	Brass*	4.0	1.85	5.55	4.85
1965-01-02	A	Brass*	6.437	1.75	2.38	2.08
2062-01-02	D	Brass*	4.0	1.85	5.40	4.75
2111-01-02	B	Brass*	3.0	1.281	3.25	2.84
2111-02-02	B	Brass*	4.562	1.50	3.65	3.20
2111-03-02	B	Brass*	6.438	1.75	4.05	3.55
2111-04-02	B	Brass*	9.0	1.75	4.45	3.90
2385-01-14	B	Alum.†	3.0	1.281	2.41	2.11
2385-02-14	B	Alum.†	4.562	1.50	2.63	2.30
2385-03-14	B	Alum.†	6.438	1.75	2.88	2.52
2720-01-22	D	‡	4.0	1.459	7.80	6.80

*Nickel finish; for black oxide, order **-12** (prices on request). †Black anodize; for semi-frost anodize at same price, order **-18**. ‡Stainless steel.

WRITE FOR FREE CAMBION CATALOG FOR COMPLETE LISTING OF ALL CAMBION PRODUCTS

ALL-SET TERMINAL BOARDS (FIG. E)

With terminals firmly mounted. Boards scribed into five sections. Each section has 10 terminals and 4 mounting holes in two rows except Nos. **1401-** which have only 5 terminals and two mounting holes in a single row. **Materials** are: **FBE**, cotton-fabric phenolic MIL-P-15035B; **GEE**, epoxy glass-cloth, MIL-P-18177B; **NPG**, nylon-fabric phenolic MIL-P-15047B. Min. order two.

Cambion Number	Mat.	Size, Inches Th. x Width	Net Each, Lots of 1-9	10-99	100-499
1330-25-01-02	GEE	1/16 x 1 1/8	$ 7.55	$5.45	$4.75
1401-35-01-01	FBE	3/32 x 1/2	2.93	2.11	1.85
1401-35-01-02	GEE	3/32 x 1/2	4.55	3.30	2.87
1402-35-01-01	FBE	3/32 x 2	6.40	4.60	4.05
1402-35-01-02	GEE	3/32 x 2	10.50	7.55	6.60
1402-35-01-03	NPG	3/32 x 2	7.65	5.50	4.80
1402-45-01-01	FBE	1/8 x 2	6.40	4.60	4.05
1402-45-01-02	GEE	1/8 x 2	13.30	9.60	8.40
1402-45-01-03	NPG	1/8 x 2	7.65	5.50	4.80
1403-35-01-01	FBE	3/32 x 2 1/2	6.75	4.85	4.25
1403-45-01-01	FBE	1/8 x 2 1/2	6.75	4.85	4.25
1404-35-01-01	FBE	3/32 x 3	7.00	5.05	4.40
1404-45-01-01	FBE	1/8 x 3	7.00	5.05	4.40
1405-35-01-01	FBE	3/32 x 1 1/16	5.90	4.25	3.70
1405-25-01-01	FBE	1/16 x 1 1/16	5.90	4.25	3.70
1405-25-01-02	GEE	1/16 x 1 1/16	9.15	6.60	5.75
1406-35-01-01	FBE	3/32 x 1 1/2	6.15	4.45	3.85
1406-45-01-01	FBE	1/8 x 1 1/2	6.15	4.45	3.85

FERRULES

Cambion Number	Metal	For Handle	Net Each, Lots of 10-99	100-499	500-999
1211-01*	Brass	1280 Series	$0.21	$0.19	$0.18
1212-01†	Alum.	1290 Series	.43	.38	.36
1952-01*	Brass	1220 Series	.23	.20	.19
1953-01†	Alum.	1230 Series	.43	.38	.36
1954-01*	Brass	{1075, 1965, 1250,	.23	.20	.19
1988-01*	Brass	{1252, 1254	.31	.27	.26
1989-01†	Alum.	1270, 71 Series	.43	.38	.36

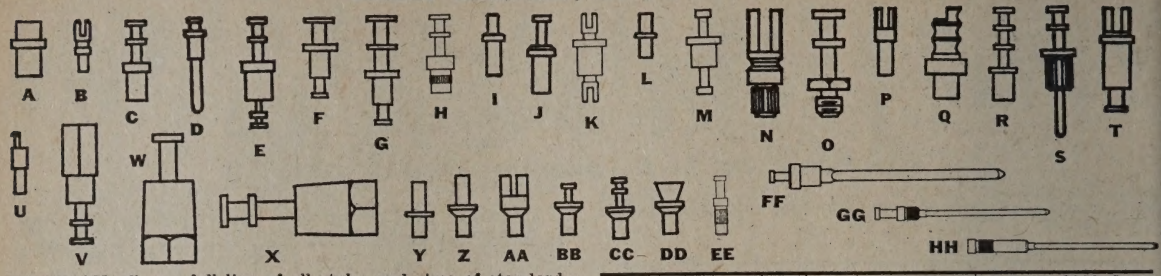
*Add suffix **-02** for nickel finish; **-12** for black oxide. †Add suffix **-14** for black anodize; **-18** for semi-frost anodize.

CAMBRIDGE THERMIONIC CORPORATION

CAMBION®

Solder Terminals, Wire-Wrap† Pins and Swaging Tools

SOLDER TERMINALS, WIRE-WRAP† PINS

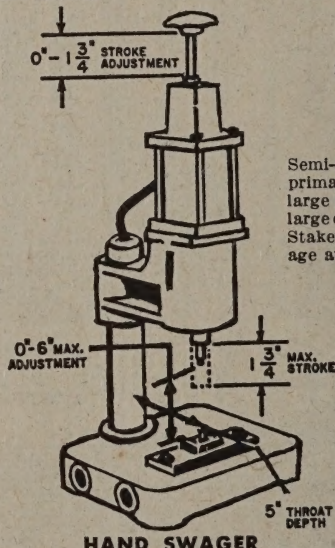


CAMBION offers a full line of all styles and sizes of standard solder terminals: Single and double turret, slotted, castellated, forked and others. The most popular types are listed. Prices shown are for the following standard platings: Plating code suffix **-01**, silver; **-04**, electro-tin; **-05**, electro-solder; **-01-05**, both silver and electro-solder (prices of other platings available on request). Order by CAMBION Type No. with correct dash number for board thickness desired, followed by plating code suffix.

Dash No. Suffix	Board Thickness	Dash No. Suffix	Board Thickness	Dash No. Suffix	Board Thickness
-11	1/16"	-3	3/32"	-6	1/4"
-1	1/32"	-4	1/8"		
-2	1/16"	-5	5/16"		

Cambion Type Number	Plating Code Suffix	Fig.	Mtg. Dia., In.	Description	Net per 1000, Lots 1000-4999	5000-9999	10M-24999
1015-2/4	-04	A	.053	Taper recep.	$58.10	$54.30	$47.50
1018-1/2	-01	B	.047	Thru hole	34.60	32.30	28.30
1019-1/3	-01	B	.047	Thru hole	38.30	35.90	31.40
1025-2	-01	B	.112	Slotted	120.10	112.30	98.30
1026-1/4	-01 or -05	C	.090	Turret	27.60	25.80	22.60
1031-2	-01	D	.072	Turret	54.90	51.30	44.90
1032-1/2	-01	D	.062	Turret	34.60	32.30	28.30
1035-2/3	-01 or -05	E	.125	Feed thru	46.90	43.80	38.30
1041-2/3	-01	F	.090	Turret	39.90	37.30	32.60
1042-2/3	-01	G	.090	Turret	50.40	47.20	41.30
1043-2/4	-01	E	.090	Turret	50.40	47.20	41.30
1092-1	-05	H	.099	Knurled tur., self-piercing	28.10	26.30	23.00
1131-2	-04	I	.060	Pin	37.20	34.80	30.40
1132-2/3	-04	I	.060	Pin	37.20	34.80	30.40
1136-2	-04	I	.060	Pin	50.00	46.70	40.90
1245-2/3	-01	J	.112	Turret	38.00	35.60	31.10
1384-1/4	-05	K	.116	Dbl. slot ends thru-hole	89.60	83.70	73.30
1457-1/4	-01	J	.078	Turret	24.50	22.90	20.00
1459-2	-05	L	.039	PC eyelet	32.60	30.50	26.70
1460-2	-05	L	.046	thru hole	32.60	30.50	26.70
1461-2	-05	L	.050		32.60	30.50	26.70
1462-2	-05	L	.059		32.60	30.50	26.70
1463-1/2	-01-05	M	.116	Domed Turret	33.80	31.60	27.70
1464-2/4	-05	M	.116	Tur. MIL-T-55155, SE13-XC04, 5, 6	33.20	31.00	27.20
1548-1/5	-01	C	.112	Turret	34.40	32.20	28.20
1558-1/5	-01	C	.090	Turret	25.10	23.50	20.50
1578-2/4	-01	N	.150	Knurled	65.80	61.50	53.80
1579-2/4	-01	G	.202	Feed thru	73.20	68.40	59.90
1582-2	-01	O	4-40	Round base	71.80	67.20	58.80
1597-1/5	-01	C	.090	Turret	27.60	25.80	22.60
1604-2	-01	J	.062	Turret	29.40	27.50	24.10
1724-1/4	-01-05	C	.112	Turret	38.40	35.90	31.40
1783-4	-01	N	.135	Knurled	104.20	97.40	85.20
1784-2/4	-01	N	.112	Knurled	59.50	55.70	48.70
1785-1/4	-01	P	.062	Forked	32.90	30.70	26.90
1797-1/4	-01	J	.110	Turret	37.30	34.90	30.60
1798-2	-01	C	.135	Turret	55.30	51.70	45.20
1941-2	-01	P	.071	Thru hole	33.50	31.30	27.40
1969-1/5	-01	P	.112	Thru hole	48.10	45.00	39.40
1979-2/4	-01	Q	.112	Half slot	55.90	52.30	45.70
2000-1/4	-01	G	.090	Feed thru	37.00	34.60	30.20
2004-1/4	-01	E	.090	Feed thru	36.30	33.90	29.70
2027-1/4	-01	J	.071	Thru hole	32.90	30.70	26.90
2034-1/4	-01	C	.090	Turret	38.70	36.20	31.70
2040-1/4	-01-05	E	.072	Turret	39.50	36.90	32.30
2041-1/3	-01-05	J	.072	Turret	25.10	23.50	20.50
2042-1/2	-01-05	F	.072	Turret	27.00	25.30	22.10
2043-1/4	-01-05	C	.072	Turret	25.90	24.20	21.20
2044-1/4	-01-05	G	.072	Turret	28.50	26.60	23.30
2051-1/2	-01	O	4-40	Hex base	80.30	75.10	65.70
2080-1/4	-01	R	.090	Turret	34.30	32.10	28.10
2081-1/4	-01	S	.120	Knurled	50.70	47.40	41.50
2084-2/4	-01	R	.112	Turret	65.00	60.80	53.20
2085-1/4	-01	J	.047	Turret	21.50	20.10	17.60
2086-2/3	-01	T	.122	Thru hole	63.30	59.20	51.80
2089-1/4	-01	B	.047	Thru hole	41.70	39.00	34.10
2100-1/3	-01	J	.062	Thru hole	32.90	30.70	26.90
2113-4	-04	C	.053	.061 top	80.60	62.10	58.00
2114-3	-04	C	.053	taper re-	79.50	74.30	65.00
2115-2/3	-04	F	.053	ceptacle	103.40	96.70	84.60
2141-2/4	-01	F	.116	Thru hole	67.00	62.60	54.80
2154-1	-01	U	.047	Half turret	68.30	63.90	55.90
2186-2/4	-04	J	.053	Taper recep.	77.00	72.00	63.00
2187-1/2	-05	B	.032	Slotted	38.70	36.20	31.70
2345-3	-01	V	.125	Term.-spacer	106.30	99.40	87.00
2380-1	-05	W	4-40	Tapped mt.	140.10	131.00	114.60
2381-1	-05	X	4-40	Tapped mt.	138.10	129.20	113.00
2750-2/4	-05	Y	.060	PC pin	$33.20	$31.00	$27.20
2751-2/4	-05	Z	.060	PC pin	33.20	31.00	27.20
2752-2/4	-05	AA	.060	PC thru hole	49.20	46.00	40.30
2753-2/3	-05	BB	.060	PC turret	33.20	31.00	27.20
2754-1/4	-05	CC	.060	PC turret	33.20	31.00	27.20
2755-2/3	-05	DD	.060	PC thru hole	33.20	31.00	27.20
2926-2	-05	AA	.060	PC flared	82.90	77.50	67.90
3653-1/3	-01-05	C	.062	Turret	27.20	25.40	22.20
3748-2	-04	FF	.090	.045 sq. swage mt.†	99.60	93.10	81.50
3848-1	-03*	GG	.056	.025 sq.	152.20	142.30	124.50
3848-1	-04	GG	.056	feed-thru†	107.70	100.70	88.10
3854-1	-03*	HH	.058	.025 sq.	156.80	146.70	128.30
3854-1	-04	HH	.058	press mt.†	111.80	104.50	91.50
3866-1	-03*	GG	.058		127.10	118.90	104.00
7336-1/4	-05	BB	.060	PC flared; red	33.00	30.90	27.00
7337-1/4	-05	CC	.060	lead brass/	33.90	31.70	27.70
7338-1/4	-05	AA	.060	ASTMB-140	54.20	50.70	44.40

*Gold plating. †Wire-Wrap (Reg. Gardner-Denver TM). ‡Knurled mt. Additional quantities available on request. **Minimum standard package is 100 pieces.**



TYPE 3804-7 SOLENOID SWAGER WITH SWEEPGUARD AND FOOT SWITCH

Semi-automatic staker designed primarily for requirements too large for hand swaging, yet not large enough to require a Hopper Staker machine. A variable voltage autotransformer of at least 5 ampere size, 50–60 Hz, 115 volts AC, required but not furnished or included in price. Size, 25" H. (approximate) x 10" square base.

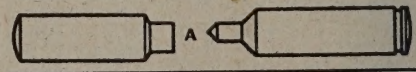
Cambion Type 3804-7 Solenoid Swager with Sweepguard and Foot Switch—Net Each..**$764.50**

HAND SWAGER

Designed for quick, uniform swaging of solder terminals on terminal boards. Adjustable to a wide range of terminal board thicknesses. Swaging in place as far as 1⅞" from board edge. Less tooling.

Cambion Type 3802-1—2½" throat. Net Each.....**$65.50**

Cambion Type 3803-1—5" throat. Net Each.....**$104.50**



SWAGING TOOLS

ANVILS (FIG. A) Cambion Number	Cambion Number	Net Each	PUNCHES (FIG. B) Cambion Number	Cambion Number	Net Each
6401	6419	$10.00	6601	6618	$10.00
6402	6420	10.00	6604	6619	10.00
6404	6430	10.00	6606	6629	10.00
6412	6447	10.00	6611	6654	10.00
6418	.....	10.00	6617	6657	10.00

Cambion No. 6098 Adapter—For converting to hand set use. Net Each.....**$10.00**

SEND FOR COMPLETE CAMBION CATALOG FOR FULL DATA ON ALL CAMBION PRODUCTS

CINCH PC Edge Connectors

50-6A-20
50-6A-20M

50-12A-30
50-12A-30M

Printed circuit connectors designed for minimum printed circuit card wear, low insertion force and positive contact with the printed circuit board. Units with solder tab or dip solder terminations utilize bifurcated contacts permitting two flexing surfaces instead of one for positive contact. Bifurcated contacts are especially recommended for added contact reliability where vibration or printed circuit board irregularities would otherwise cause trouble. Types meeting MIL spec MIL-C-21097B are also available as indicated. **Termination:** Bifurcated contacts with conventional 0.115″ x 0.050″ slot solder tabs. **Mounting:** Available with 0.128″ dia. holes for standard mounting, molded-in bushings or floating bushings. Diameter of 0.142″ also available on request. **Insulator Material:** Green glass-filled diallyl phthalate type SDG-F per MIL-M-14. **Contacts:** Phosphor bronze with 30 micro-inches gold finish; beryllium copper with 50 micro-inches gold to meet MIL-C-21097B as specified. **Polarizing Keys:** Ordered separately as follows: No. 50-PK-1 for in-contact polarization made of diallyl phthalate; No. 50-PK-2 for between-contact polarization made of glass epoxy. **Voltage Rating:** 830 VAC rms at sea level. **Current:** Rated 5.0 amps. **Contact Resistance:** 0.005 ohm at rated current. **Insulation Resistance:** 5,000 megohms. **Temperature Cycling:** 5 continuous cycles per Method 107B, Test Condition B. Beryllium copper, −65° C to +125° C; phosphor bronze, −65° C to +105° C.

COMMERCIAL TYPES

SINGLE READOUT WITHOUT BUSHINGS

Conventional solder tails.

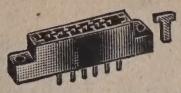
Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-6A-20	6	$1.47	$1.17	$1.00	$0.78	$0.74	$0.70
50-10A-20	10	1.96	1.58	1.30	1.06	1.02	.95
50-12A-20	12	2.23	1.86	1.48	1.18	1.12	1.07
50-15A-20	15	2.60	2.07	1.74	1.40	1.30	1.23
50-18A-20	18	2.97	1.97	1.97	1.58	1.51	1.44
50-22A-20	22	3.48	2.78	2.31	1.84	1.76	1.67
50-25A-20	25	4.16	3.31	2.76	2.22	2.11	1.97
Dip solder tails.							
50-6B-10	6	$1.47	$1.17	$1.01	$0.78	$0.74	$0.70
50-10B-10	10	1.96	1.58	1.30	1.06	1.02	.95
50-15B-10	15	2.60	2.07	1.74	1.40	1.30	1.23
50-18B-10	18	2.97	2.37	1.97	1.58	1.51	1.44
50-22B-10	22	3.48	2.78	2.31	1.84	1.76	1.67
50-25B-10	25	4.16	3.31	2.76	2.22	2.11	1.97

DOUBLE READOUT WITHOUT BUSHINGS

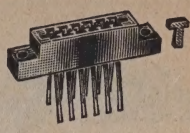
Conventional solder tails.

Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-12A-30	6	$1.47	$1.17	$1.00	$0 78	$0.74	$0.70
50-20A-30	10	1.96	1.58	1.30	1.06	1.02	.95
50-24A-30	12	2.23	1.86	1.48	1.18	1.12	1.07
50-30A-30	15	2.60	2.07	1.74	1.40	1.30	1.23
50-36A-30	18	2.97	2.37	1.97	1.58	1.52	1.44
50-44A-30	22	3.48	2.78	2.31	1.84	1.76	1.67
50-50A-30	25	4.14	3.31	2.76	2.22	2.11	1.97
Dip solder tails.							
50-12B-10	6	$1.47	$1.17	$1.00	$0.78	$0.74	$0.70
50-20B-10	10	1.96	1.58	1.30	1.06	1.02	.95
50-24B-10	12	2.23	1.86	1.48	1.18	1.12	1.07
50-30B-10	15	2.60	2.07	1.74	1.40	1.30	1.23
50-36B-10	18	2.97	2.37	1.97	1.58	1.52	1.44
50-44B-10	22	3.48	2.78	2.31	1.84	1.76	1.67
50-50B-10	25	4.14	3.31	2.76	2.22	2.11	1.97
Wrap post tails.							

Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-12B-20	6	$3.56	$2.87	$2.38	$1.90	$1.82	—
50-20B-20	10	4.47	3.57	2.98	2.38	2.27	—
50-24B-20	12	4.94	3.94	3.29	2.63	2.50	—
50-30B-20	15	5.60	4.47	3.74	2.98	2.85	—
50-36B-20	18	6.27	5.01	4.19	3.35	3.17	—
50-44B-20	22	7.16	5.73	4.78	3.82	3.63	—



50-12B-10
50-12B-10M



50-12B-20

MIL-C-21097B PC CONNECTORS

SINGLE READOUT

With conventional wiring tails, no bushings.

Cinch Number 50-	MIL No. M21097/	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
6A-20M	1-001	6	$1.88	$1.51	$1.24	$1.01	$0.97	$0.91
10A-20M	1-037	10	2.64	2.11	1.76	1.42	1.33	1.25
15A-20M	1-073	15	3.56	2.86	2.38	1.90	1.82	1.72
18A-20M	1-109	18	4.16	3.34	2.76	2.21	2.11	1.97
22A-20M	1-145	22	4.90	3.92	3.26	2.60	2.49	2.35
With conventional wiring tails, floating bushings.								
6A-20MB	1-004	6	$4.20	$3.35	$2.79	$2.24	$2.12	$1.84
10A-20MB	1-040	10	4.87	3.90	3.26	2.60	2.47	2.18
15A-20MB	1-076	15	5.74	4.00	3.84	3.08	2.91	2.59
18A-20MB	1-112	18	6.23	5.00	4.18	3.33	3.16	2.81
22A-20MB	1-148	22	6.91	5.52	4.61	3.69	3.50	3.16
With conventional wiring tails, molded-in bushings.								
6A-20MFB	1-007	6	$2.49	$2.00	$1.66	$1.31	$1.24	$1.19
10A-20MFB	1-043	10	3.23	2.59	2.16	1.72	1.64	1.55
15A-20MFB	1-079	15	4.18	3.34	2.78	2.23	2.12	2.01
18A-20MFB	1-115	18	4.75	3.80	3.16	2.53	2.39	2.27
22A-20MFB	1-151	22	5.48	4.39	3.66	2.93	2.79	2.64

DOUBLE READOUT

With conventional wiring tails, no bushings.

Cinch Number 50-	MIL No. M21097/	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
12A-30M	1-019	6	$1.88	$1.51	$1.24	$1.01	$0.97	$0.91
20A-30M	1-055	10	2.64	2.11	1.76	1.42	1.33	1.25
30A-30M	1-091	15	3.56	2.86	2.38	1.90	1.82	1.72
36A-30M	1-127	18	4.16	3.31	2.76	2.22	2.11	1.97
44A-30M	1-163	22	4.90	3.92	3.26	2.61	2.49	2.35
With conventional wiring tails, molded-in bushings.								
12A-30MB	1-022	6	$4.20	$3.35	$2.79	$2.24	$2.12	$1.84
20A-30MB	1-058	10	4.87	3.90	3.26	2.60	2.47	2.18
30A-30MB	1-094	15	5.74	4.60	3.84	3.08	2.91	2.59
36A-30MB	1-130	18	6.23	5.00	4.18	3.33	3.16	2.81
44A-30MB	1-166	22	6.91	5.52	4.61	3.69	3.50	3.16
With conventional wiring tails, floating bushings.								
12A-30MFB	1-025	6	$2.49	$2.00	$1.66	$1.31	$1.24	$1.19
20A-30MFB	1-061	10	3.23	2.59	2.16	1.72	1.64	1.55
30A-30MFB	1-097	15	4.18	3.34	2.78	2.23	2.12	2.01
36A-30MFB	1-133	18	4.75	3.80	3.16	2.53	2.39	2.27
44A-30MFB	1-169	22	6.91	5.52	4.61	3.69	3.50	3.16
With dip solder tails, no bushings.								
12B-10M	1-028	6	$1.88	$1.51	$1.24	$1.01	$0.97	$0.91
20B-10M	1-064	10	2.64	2.11	1.76	1.42	1.33	1.25
30B-10M	1-100	15	3.56	2.86	2.38	1.50	1.82	1.72
36B-10M	1-136	18	4.16	3.31	2.76	2.22	2.11	1.97
44B-10M	1-172	22	4.90	3.92	3.26	2.61	2.49	2.35

POLARIZING KEYS

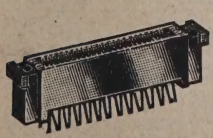
Cinch No. 50-	Polarization	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
PK-1	In-contact	$0.091	$0.074	$0.062	$0.049	$0.047	$0.043
PK-2	Between contact	.076	.061	.061	.044	.040	.037

CARD GUIDE

For use with edge connectors with 0.156″ spacing or with 0.100″ centers, 1/16″ boards.

PK-3	$0.091	$0.074	$0.062	$0.043	$0.041	$0.038

TYKON MINIATURE EDGE CONNECTORS



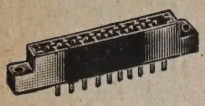
High density edge connectors with .050″ centers for use with double-sided .062″ printed circuit boards. Conventional wiring tails. Insulator is diallyl phthalate, type SDG-F per MIL-M-14F. Contacts are beryllium copper with .00003″ gold plate per MIL-G-45204 Type II. Carbon steel mounting clip for use in semi-flush printed circuit mounting, and cellulose acetate polarizing key available as separate items.

Cinch Number 50-	Cont. Pos.	No. of Cont.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
12A-40	6	12	$4.12	$3.28	$2.74	$2.19	$2.08	$1.97
20A-40	10	20	5.07	4.05	3.38	2.71	2.56	2.44
30A-40	15	30	6.27	5.03	4.19	3.34	3.18	3.02
40A-40	20	40	7.25	5.97	4.98	3.98	3.79	3.59
50A-40	25	50	8.66	6.93	5.76	4.63	4.38	4.16
MC	Mounting Clip		.279	.203	.177	.166	.152	.131
PK	Polarizing Key		.226	.179	.167	.154	.143	.131

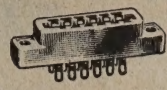
★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

CINCH PC BOARD EDGE CONNECTORS

PC BOARD EDGE CONNECTORS



Extended Tail Dip Solder



Card Extender

Wire Wrap Terminal

Three series of 0.156″ centers PC edge connectors have special purpose terminals which make them particularly well-suited in special applications.

Extended Tail Dip Solder Terminal Series: These connectors have 15⁄64″ terminations that are long enough to pass through two or three 1⁄16″ PC boards. The connector can be used to connect two PC boards at right angles to third or to provide the equivalent of a double-sided or multilayer board by making a sandwich of two or three boards. Can also be used where a component is to be soldered to the underside of the board at the connector. Connectors designed for minimum card wear, low insertion force and incorporate bifurcated phosphor bronze contacts with 30 micro-inches gold plating for positive electric contact even under high vibration conditions or printed circuit board irregularities. Insulator is glass-filled diallyl phthalate type SDG-F per MIL-M-14. Connectors are available in both single and double read-out.

Card Extender Series: Permit end-to-end connection of PC boards. The solder tabs terminals are formed so that there is 0.050″ spacing between rows. Insertion of a standard 1⁄16″ board between the rows allows soldering of terminals to the printed circuit conductor paths to form a permanent, vibration-proof attachment. Designed for minimum card wear, low insertion force and incorporate beryllium copper contacts with 30 micro-inches gold plating for positive electric contact. Insulator is glass-filled diallyl phthalate type SDG-F per MIL-M-14.

Wire Wrap* Terminal Series: Economical, high quality printed circuit board terminals have cantilever contact construction which provides a simple dependable design capable of handling 1⁄16″ thick single or double sided boards. Contacts are preloaded against an insulator stop to provide gap uniformity and assure rapid build-up of force to the PC board. Construction combines minimum insertion force with maximum contact pressure. Comb contact formation permits simultaneous insertion of contacts for consistency of assembly and increased speed. Wire Wrap tails are available in lengths of .550″, .750″ and 1.051″ to accommodate Wire Wrap equipment and popular clip-on connections. Contact is automatically inserted, locked in position and is preloaded in one operation. Bifurcated phosphor bronze contacts with 30 micro-inches gold plating are designed so that contact pressure is independent of depth of PC board insertion. Selective gold plating permits concentration of gold in area of contact at substantially reduced cost. Wire Wrap termination of 0.031″ x 0.062″, between contact polarizing. Insulator is of general purpose impact phenolic and black color. **Models 50-30W-10 and 50-44W-10** have .045″ square tail Wire Wrap terminals on .156″ spacing, double read-out for 1⁄16″ printed circuit boards, and have .128″ diameter mounting holes. **Model 50-80W-20** has .025″ square tail Wire Wrap terminals on .125″ centers; .156″ diameter mounting holes. **Polarizing Key 50-PK-2** is used for these connectors and must be ordered separately.

*Registered Gardner-Denver trademark.

EXTENDED TAIL DIP SOLDER TERMINAL SERIES

Single read-out connectors.

Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-6S-10	6	$1.47	$1.17	$1.01	$0.78	$0.74	$0.70
50-10S-10	10	1.96	1.58	1.30	1.06	1.02	.95
50-12S-10	12	2.23	1.86	1.48	1.18	1.12	1.07
50-15S-10	15	2.60	2.07	1.74	1.40	1.30	1.23
50-18S-10	18	2.97	2.37	1.97	1.58	1.51	1.44
50-22S-10	22	3.48	2.78	2.31	1.84	1.76	1.67
50-25S-10	25	4.16	3.31	2.76	2.22	2.11	1.97
Double read-out connectors.							
50-12S-20	6	$1.47	$1.17	$1.00	$0.78	$0.74	$0.70
50-20S-20	10	1.96	1.58	1.30	1.06	1.02	.95
50-24S-20	12	2.23	1.86	1.48	1.18	1.12	1.07
50-30S-20	15	2.60	2.07	1.74	1.40	1.30	1.23
50-36S-20	18	2.97	2.37	1.97	1.58	1.51	1.44
50-44S-20	22	3.48	2.78	2.31	1.84	1.76	1.67
50-50S-20	25	4.87	3.90	3.26	2.60	2.47	2.18

CARD EXTENDER SERIES

Double read-out connectors.

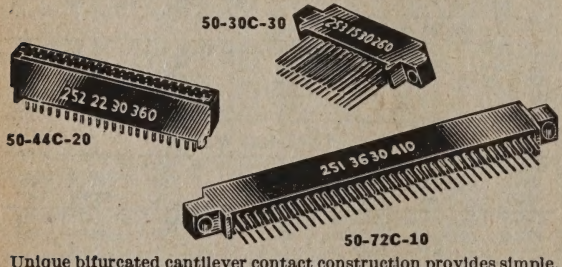
Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-12S-30	6	$1.86	$1.50	$1.22	$1.01	$0.93	$0.88
50-20S-30	10	2.21	1.82	1.54	1.42	1.23	1.18
50-24S-30	12	2.59	2.07	1.73	1.40	1.30	1.23
50-30S-30	15	3.23	2.59	2.16	1.72	1.63	1.55
50-36S-30	18	3.57	2.89	2.42	1.95	1.86	1.79
50-44S-30	22	4.23	3.39	2.85	2.28	2.18	2.06
50-50S-30	25	4.98	4.00	3.36	2.71	2.58	2.28

WIRE WRAP TERMINAL SERIES

Double read-out connectors.

Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-30W-10	15/30	$5.89	$4.71	$3.93	$3.14	$2.98	$2.81
50-44W-10	22/44	8.00	6.41	5.22	4.27	4.05	3.84
50-44E-10	22/44	4.49	3.61	2.99	2.39	2.27	2.16
50-44F-10	22/44	4.49	3.61	2.99	2.39	2.27	2.16
50-44G-10	22/44	4.49	3.61	2.99	2.39	2.27	2.16
50-80W-20	40/80	8.69	6.95	5.80	4.63	4.41	4.18

PRECISION DOUBLE READ-OUT EDGE CONNECTORS WITH 0.100 INCH CENTERS, 1/16″ BOARDS



Unique bifurcated cantilever contact construction provides simple, dependable design capable of handling 1⁄16″ thick printed circuit boards. Contacts pre-loaded against an insulator stop to provide gap uniformity and assure rapid build-up of force to the PC board. Contacts are grade A phosphor bronze, gold plated with 30 micro-inches of gold over 50 micro-inches of nickel in contact area and 10 micro-inches minimum gold on remainder of contact, per MIL-G-45204, Type II. Insulation, glass-filled diallyl phthalate, Type SDG-F per MIL-M-14. **Polarizing Key: No. 50-PK-3,** ordered separately. **Card Guide: No. 50-GP-1,** must also be ordered separately.

Conventional solder tails.

Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-30C-10	15	$3.72	$2.97	$2.49	$1.97	$1.87	$1.79
50-44C-10	22	4.39	3.50	2.92	2.33	2.21	2.11
50-72C-10	36	5.71	4.57	3.81	3.05	2.88	2.74
50-80C-10	40	6.03	4.82	4.01	3.20	3.03	2.89
50-86C-10	43	6.41	5.11	4.26	3.40	3.21	3.08
50-100C-10	50	7.04	5.62	4.67	3.75	3.55	3.36
Dip solder tails.							
50-30C-20	15	$3.72	$2.97	$2.49	$1.97	$1.87	$1.79
50-44C-20	22	4.39	3.50	2.92	2.33	2.21	2.11
50-72C-20	36	5.71	4.57	3.81	3.05	2.88	2.74
50-80C-20	40	6.03	4.82	4.01	3.20	3.03	2.89
50-86C-20	43	6.41	5.11	4.26	3.40	3.21	3.08
50-100C-20	50	7.04	5.62	4.67	3.75	3.55	3.36
Wire Wrap tails.							
50-30C-30	15	$3.77	$3.03	$2.54	$2.04	$1.93	$1.84
50-44C-30	22	4.44	3.55	2.97	2.39	2.26	2.16
50-72C-30	36	5.76	4.62	3.86	3.11	2.93	2.79
50-80C-30	40	6.08	4.88	4.06	3.27	3.10	2.94
50-86C-30	43	6.46	5.17	4.32	3.47	3.28	3.13
50-100C-30	50	7.16	5.72	4.78	3.82	3.61	3.43

POLARIZING KEYS

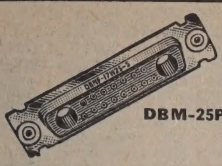
Cinch Number	Std. Pkg.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-PK-3	500	$0.091	$0.074	$0.062	$0.043	$0.041	$0.038
50-PK-2	500	.076	.061	.061	.044	.040	.037

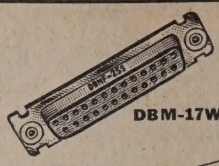
CARD GUIDE

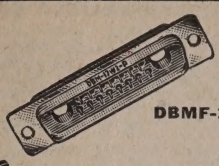
Cinch Number	Std. Pkg.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-GP-1	10	$0.372	$0.300	$0.254	$0.207	$0.196	$0.188

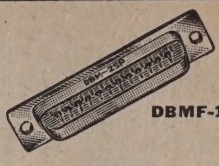
★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

CINCH D-SUBMINIATURE CONNECTORS*


DBM-25P

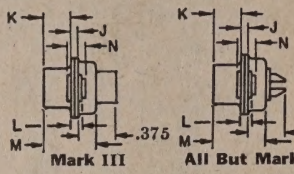

DBM-17W2P

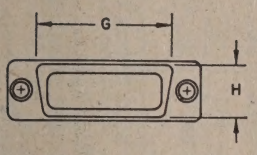

DBMF-25S

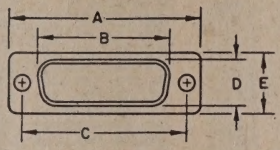

DBMF-17W2S

Plug with 0.25" square wire-wrap terminations

Plug with right angle dip solder PC terminations







Five basic shell sizes cover a full array of contact configurations for most rack and panel applications. Solder pot contacts rated 5 amps (1.5 amps, MIL) are standard; crimp-on contacts available. Cadmium-plated steel shell has yellow chromate coating. Insulators glass filled diallyl phthalate per MIL-M-14F, Type SDG in monobloc construction; or, two-piece nylon insulator. Pins and sockets are #20 AWG; coaxial contacts and high voltage contacts available. **Voltage:** 1700 VAC rms, 60 Hz at sea level, average flashover; 1250 volts, test. D-H series, 1000 VAC rms, 60 Hz at sea level, flashover; 750 volts, test. **Insulation:** 5,000 megohms, MIL-STD-202A, Method 302. **Contact Voltage Drop:** 2.67 mV max. per amp, MIL-C-8384B, Para. 4.6.4. **Contact Separation Force:** 1–8 oz. **Environment:** MIL-STD-202A, Meth. 106, moisture; Meth. 204, vibration; Meth. 202A, shock; Meth. 101A, Cond. B, 50-hr. salt spray; Meth. 301, high potential; Meth. 102A, Cond. D, temp. cycling. All referenced in MIL-C-8384B.

Cinch No. by Shell Size	Dimension Key, Inches											
	A	B‡	C†	D‡	E	G	H	J	K	L	M	N
DE*-9P	1.213	.697	.984	.360	.494	.759	.422	.030	.236	.045	.422	.120
DE*-9S	1.213	.640	.984	.308	.494	.759	.422	.030	.243	.045	.429	.120
DA*-15P	1.541	1.025	1.312	.360	.494	1.083	.422	.030	.236	.045	.422	.120
DA*-15S	1.541	.968	1.312	.308	.494	1.083	.422	.030	.243	.045	.429	.120
DB*-25P	2.088	1.583	1.852	.378	.494	1.625	.422	.039	.231	.060	.426	.129
DB*-25S	2.088	1.508	1.852	.308	.494	1.625	.422	.030	.243	.045	.429	.120
DC*-37P	2.729	2.231	2.500	.378	.494	2.272	.422	.039	.231	.060	.426	.129
DC*-37S	2.729	2.156	2.500	.308	.494	2.272	.422	.030	.243	.045	.429	.120
DD*-50P	2.635	2.127	2.406	.484	.605	2.178	.534	.039	.231	.060	.426	.129
DD*-50S	2.635	2.062	2.406	.420	.605	2.178	.534	.030	.243	.045	.429	.120

*Refer to ordering code for insulator type designation. †.120" dia. holes, standard units; .086" dia., float mount units. ‡Measured as outside dimensions at bottom of the draw.

HOW TO ORDER

D	E	SM	F	-9	P
A	B	C	D	E	F

A **Prefix:** Indicates Cinch Series **D.**

B **Shell Size:** Five basic sizes determined by insert arrangement. See table of dimensions for sizes: **E, A, B, C** and **D.**

C **Insulator Type:** If **none,** insulator is two-piece nylon; **M,** monobloc diallyl phthalate with solder pot contacts; **MA,** same as M, but with snap-in, removable, crimp, rear release assembly; **SM,** same as M, but crimp, snap-in contacts.

D **Float Mount:** Float-mounting shell type available for all standard connectors. Has stainless steel washers and rivets.

E **Insert Arrangement:** Choice of **9, 15, 20, 37** or **50** contacts, standard. Combination layouts available with coaxial cavities in Mark I Golden "D" series (see listing). High voltage cavities also available; details on request.

F **Contact Type: P,** Pin; **S,** Socket.

MARK III ROYAL "D" CONNECTOR

Snap-in, removable crimp contacts with rear release assembly. Contacts not interchangeable but units will mate and are interchangeable with all other D Series. Insulator diallyl phthalate, glass fiber filled, per MIL-P-19833, Type GDK-30F, royal purple color, monobloc construction. **Contacts:** Pin, leaded copper, gold plate over silver plate; socket, copper alloy, gold plate over silver plate with stainless steel sleeves.

Cinch Number	Contacts		Net Each, Lots of				
	No.	Type	1-9	10-49	50-99	100-249	250-499
DEMA-9P	9	Pin	$ 6.92	$ 6.23	$ 5.20	$ 4.14	$ 3.81
DEMAF-9P	9	Pin	7.71	6.94	5.79	4.62	4.24
DEMA-9S	9	Socket	7.13	6.42	5.33	4.28	3.92
DEMAF-9S	9	Socket	7.92	7.13	5.95	4.75	4.35
DAMA-15P	15	Pin	8.81	7.93	6.59	5.29	4.84
DAMAF-15P	15	Pin	9.61	8.64	7.20	5.76	5.28
DAMA-15S	15	Socket	9.92	8.93	7.43	5.96	5.46
DAMAF-15S	15	Socket	10.71	9.65	8.03	6.43	5.88
DBMA-25P	25	Pin	11.83	10.66	8.88	7.10	6.51
DBMAF-25P	25	Pin	12.71	11.46	9.53	7.63	6.98
DBMA-25S	25	Socket	14.43	12.98	10.82	8.65	7.93
DBMAF-25S	25	Socket	15.30	13.77	11.49	9.18	8.42
DCMA-37P	37	Pin	15.46	13.91	11.58	9.28	8.51
DCMAF-37P	37	Pin	16.34	14.68	12.25	9.81	8.98
DCMA-37S	37	Socket	19.78	17.81	14.85	11.87	10.87
DCMAF-37S	37	Socket	20.66	18.61	15.50	12.38	11.37
DDMA-50P	50	Pin	19.33	17.39	14.49	11.58	10.63
DDMAF-50P	50	Pin	20.20	18.18	15.16	12.13	11.11
DDMA-50S	50	Socket	25.55	22.98	19.16	15.33	14.05
DDMAF-50S	50	Socket	26.42	23.78	19.81	15.86	14.52

MARK III MIL-C-24308 VERSIONS

Cinch Number	Description	Net Each, Lots of				
		1-9	10-49	50-99	100-249	250-499
M24308/2-1	DEMA-9S	$ 7.57	$ 6.63	$ 5.55	$ 4.49	$ 4.13
M24308/2-2	DAMA-15S	10.44	9.29	7.79	6.32	5.82
M24308/2-3	DBMA-25S	15.08	13.58	11.42	9.25	8.53
M24308/2-4	DCMA-37S	21.00	18.70	15.73	12.75	11.78
M24308/2-5	DDMA-50S	26.91	24.18	20.36	16.54	15.25
M24308/4-1	DEMA-9P	7.25	6.47	5.44	4.38	4.05
M24308/4-2	DAMA-15P	9.21	8.24	6.92	5.61	5.15
M24308/4-3	DBMA-25P	12.34	11.09	9.31	7.53	6.94
M24308/4-4	DCMA-37P	16.39	14.63	12.30	9.99	9.22
M24308/4-5	DDMA-50P	20.42	18.27	15.36	12.47	11.50

*Manufactured by agreement with ITT Cannon Electric Co.

ORIGINAL "D" CONNECTORS

Two-piece construction utilizes Zytel® casting material; keystone shape assures proper polarization. Friction coupling is standard; locking accessories and floating mount shells also available. **Temp. Range:** −65° F to +250° F. **Contacts:** Pin, gold plate over silver-plated brass; socket, gold plate over silver-plated phosphor bronze.

® DuPont trademark.

Cinch Number	Contacts		Net Each, Lots of				
	No.	Type	1-9	10-49	50-99	100-249	250-499
DE-9P	9	Pin	$1.43	$1.28	$1.09	$0.85	$0.79
DE-9S	9	Socket	2.06	1.84	1.53	1.22	1.12
DEF-9P	9	Pin	2.26	2.06	1.71	1.38	1.24
DEF-9S	9	Socket	2.90	2.59	2.17	1.74	1.58
DA-15P	15	Pin	2.02	1.82	1.52	1.21	1.11
DA-15S	15	Socket	2.98	2.69	2.24	1.79	1.64
DAF-15P	15	Pin	2.88	2.58	2.15	1.71	1.56
DAF-15S	15	Socket	3.83	3.44	2.89	2.31	2.12
DB-25P	25	Pin	2.93	2.73	2.24	1.75	1.60
DB-25S	25	Socket	4.58	4.12	3.43	2.75	2.52
DBF-25P	25	Pin	3.85	3.47	2.91	2.32	2.13
DBF-25S	25	Socket	5.50	4.97	4.13	3.32	3.02
DC-37P	37	Pin	3.98	3.58	2.97	2.39	2.19
DC-37S	37	Socket	6.49	5.84	4.87	3.89	3.58
DCF-37P	37	Pin	4.91	4.42	3.69	2.94	2.71
DCF-37S	37	Socket	7.42	6.69	5.57	4.46	4.10
DD-50P	50	Pin	5.19	4.66	3.87	3.12	2.86
DD-50S	50	Socket	8.56	7.70	6.43	5.11	4.70
DDF-50P	50	Pin	6.10	5.49	4.59	3.68	3.36
DDF-50S	50	Socket	9.48	8.54	7.13	5.69	5.22

ORIGINAL "D" CONNECTORS .025" X .025" WIRE WRAP TAILS, ⅜" LONG

Cinch Number	Contacts		Net Each, Lots of				
	No.	Type	1-9	10-49	50-99	100-249	250-499
DE-9P-F179	9	Pin	$ 2.32	$1.88	$1.64	$1.44	$1.38
DE-9S-F179	9	Socket	4.22	3.36	2.80	2.24	2.06
DA-15P-F179	15	Pin	3.01	2.39	2.11	1.88	1.77
DA-15S-F179	15	Socket	5.78	4.60	3.83	3.06	2.81
DB-25P-F179	25	Pin	4.74	3.77	3.27	2.73	2.59
DB-25S-F179	25	Socket	6.72	5.40	4.73	4.22	3.96
DC-37P-F179	37	Pin	6.46	5.11	4.53	3.91	3.69
DC-37S-F179	37	Socket	8.95	7.17	6.83	6.48	6.14
DD-50P-F179	50	Pin	7.67	6.11	5.38	4.84	4.58
DD-50S-F179	50	Socket	11.79	9.42	8.96	8.44	7.88

DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

D-SUBMINIATURE CONNECTORS★ (CONT'D)

MARK I GOLDEN "D" CONNECTORS

Monobloc insulator design of glass-filled diallyl phthalate (FS-5) per MIL-M-14F, Type SGD. Keystone cornered shell provides proper polarization. Friction coupling is standard; locking accessories are available. Floating mount shells also available. **Temperature Range:** −65° F to +300° F. **Contacts:** Pin contacts, gold plate over silver-plated brass; female contacts, gold plate over silver-plated phosphor bronze.

Cinch Number	Contacts No.	Contacts Type	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
DEM-9P	9	Pin	$ 2.84	$ 2.55	$ 2.13	$ 1.70	$1.54
DEM-9S	9	Socket	3.91	3.51	2.94	2.36	2.16
DEMF-9P	9	Pin	3.68	3.31	2.74	2.21	2.01
DEMF-9S	9	Socket	4.75	4.28	3.57	2.86	2.63
DAM-15P	15	Pin	4.08	3.68	3.05	2.45	2.24
DAM-15S	15	Socket	5.80	5.22	4.35	3.47	3.19
DAMF-15P	15	Pin	4.92	4.43	3.70	2.95	2.72
DAMF-15S	15	Socket	6.64	5.97	4.98	3.98	3.65
DBM-25P	25	Pin	6.02	5.41	4.53	3.61	3.32
DBM-25S	25	Socket	8.93	8.02	6.71	5.34	4.90
DBMF-25P	25	Pin	6.94	6.25	5.21	4.17	3.82
DBMF-25S	25	Socket	9.86	8.87	7.38	5.90	5.41
DCM-37P	37	Pin	8.40	7.55	6.29	6.29	5.04
DCM-37S	37	Socket	12.75	11.46	9.53	7.62	6.99
DCMF-37P	37	Pin	9.33	8.40	6.99	5.61	5.12
DCMF-37S	37	Socket	13.65	12.27	10.23	8.18	7.51
DDM-50P	50	Pin	10.87	9.80	8.16	6.54	5.99
DDM-50S	50	Socket	16.67	15.00	12.52	10.01	9.17
DDMF-50P	50	Pin	11.82	10.65	8.86	7.09	6.51
DDMF-50S	50	Socket	17.61	15.84	13.23	10.56	9.67

MARK I GOLDEN "D" CONNECTORS—RIGHT ANGLE PC CONTACTS

Pins are 0.040″ nominal diameter and extend 0.093″ below the 90° bracket. A terminal alignment strip, held on by means of the brackets, is supplied with each connector.

Cinch Number	Contacts No.	Contacts Type	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
DEM-9PA	9	Pin	$ 8.34	$ 8.20	$ 7.47	$ 6.72	$ 5.97
DAM-15PA	15	Pin	11.84	10.76	8.97	8.16	7.48
DBM-25PA	25	Pin	17.73	16.12	14.65	13.18	11.81
DCM-37PA	37	Pin	19.51	17.72	16.56	15.36	14.95

MARK I GOLDEN "D" COAXIAL CONNECTORS SHELL ASSEMBLIES

Insulator is diallyl phthalate (FS-5) per MIL-M-14F, Type SGD. Includes 5-amp contacts assembled, but not coaxial contacts (ordered separately, see below). **Suffix: S,** socket; **P,** pin plug.

Cinch Number	Number of Cavities	Number of Contacts	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
DEM-5W1P	1	4	$2.44	$2.18	$1.83	$1.46	$1.35
DEM-5W1S	1	4	2.80	2.51	2.10	1.68	1.53
DAM-3W3P	3	None	1.88	1.69	1.41	1.13	1.03
DAM-3W3S	3	None	1.88	1.69	1.41	1.13	1.03
DAMF-3W3S	3	None	2.72	2.46	2.06	1.64	1.50
DAM-11W1P	1	10	3.51	3.17	2.63	2.12	1.93
DAM-11W1S	1	10	4.41	3.98	3.32	2.64	2.44
DAMF-11W1P	1	10	4.36	3.92	3.29	2.61	2.40
DAMF-11W1S	1	10	5.26	4.73	3.94	3.15	2.90
DAM-7W2P	2	5	2.67	2.43	2.02	1.61	1.48
DAM-7W2S	2	5	3.13	2.84	2.36	1.88	1.73
DAMF-7W2S	2	5	3.98	3.58	2.97	2.39	2.18
DBM-13W3P	3	10	3.74	3.36	2.81	2.23	2.07
DBM-13W3S	3	10	4.62	4.17	3.47	2.79	2.55
DBM-9W4P	4	5	2.91	2.60	2.17	1.74	1.60
DBM-9W4S	4	5	3.35	3.01	2.52	2.01	1.84
DBMF-9W4P	4	5	3.83	3.44	2.89	2.30	2.12
DBMF-9W4S	4	5	4.28	3.85	3.21	2.57	2.36
DBM-17W2P	2	15	4.57	4.11	3.41	2.73	2.51
DBM-17W2S	2	15	5.90	5.31	4.43	3.55	3.27
DBMF-17W2P	2	15	5.49	4.96	4.13	3.31	3.02
DBMF-17W2S	2	15	6.84	6.16	5.11	4.11	3.76
DBM-21W1P	1	20	5.40	4.85	4.06	3.23	2.96
DBM-21W1S	1	20	7.18	6.47	5.40	4.31	3.95
DCM-13W6P	6	7	3.50	3.15	2.63	2.10	1.93
DCM-13W6S	6	7	4.13	3.72	3.09	2.48	2.26

COAXIAL CONTACTS

Use with above coaxial shell assemblies. **Prefix: 53740**—Straight solder terminal plug; **53741**—Right-angle solder terminal plug; **53742**—Straight solder terminal receptacle; **53743**—Right-angle solder terminal receptacle; **53744**—High voltage plug; **53745**—High voltage receptacle.

Cinch Number	For Cable RG-	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
DM-53740-5000†	196/U	$2.03	$1.87	$1.69	$1.52	$1.37
DM-53740-5001	187, 188/U	2.01	1.85	1.74	1.50	1.35
DM-53740-5002	195/U	2.08	1.90	1.74	1.56	1.38
DM-53740-5008	196/U	2.03	1.87	1.69	1.52	1.37
DM-53741-5000	196/U	2.26	2.07	1.88	1.69	1.50
DM-53741-5001	187, 188/U	2.44	2.24	2.03	1.83	1.61
DM-53742-5000	196/U	2.14	1.94	1.77	1.59	1.43
DM-53742-5001	187, 188/U	2.03	1.87	1.69	1.52	1.37
DM-53742-5002	195/U	2.18	2.01	1.83	1.64	1.46
DM-53742-5004	58/U	2.99	2.69	2.47	2.24	2.02
DM-53743-5000	196/U	2.71	2.49	2.26	2.03	1.82
DM-53743-5001	187, 188/U	2.66	2.45	2.23	2.00	1.80
DM-53744-0000‡	#20 wire	1.44	1.31	1.19	1.08	.98
DM-53744-5000*	#20 wire	1.80	1.63	1.49	1.34	1.19
DM-53745-0000‡	#20 wire	1.27	1.18	1.07	.98	.84
DM-53745-5000*	#20 wire	2.01	1.85	1.74	1.56	1.40

*Right-angle. †Short type plug. ‡Straight.
*Manufactured by agreement with ITT Cannon Electric Co.

MARK II GOLDEN "D" CONNECTORS

Snap-in, crimp type contacts eliminate soldering; cut assembly and maintenance time. Monobloc insulator is diallyl phthalate, asbestos filled, (FS-6) per MIL-M-14F, Type MDG. Keystone shaped shells provide proper polarization. Friction coupling is standard; locking accessories are available. Floating mount shells also available. Not interchangeable with other "D" series. **Temperature Range:** −65° F to +300° F. **Contacts:** Gold plate over silver-plated, leaded copper. Contacts supplied, but unassembled.

Cinch Number	Contacts No.	Contacts Type	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
DESM-9P	9	Pin	$ 4.02	$ 3.77	$ 3.35	$ 2.99	$ 2.67
DESM-9S	9	Socket	4.74	4.35	3.96	3.57	3.17
DESMF-9P	9	Pin	4.83	4.53	3.98	3.50	3.13
DESMF-9S	9	Socket	5.55	5.08	4.57	4.06	3.61
DASM-15P	15	Pin	6.11	5.61	5.09	4.59	4.07
DASM-15S	15	Socket	7.42	6.79	6.20	5.57	4.96
DASMF-15P	15	Pin	6.94	6.34	5.72	5.08	4.53
DASMF-15S	15	Socket	8.24	7.55	6.80	6.07	5.40
DBSM-25P	25	Pin	9.29	8.12	7.38	6.25	5.61
DBSM-25S	25	Socket	11.20	10.28	9.35	7.60	6.75
DBSMF-25P	25	Pin	10.10	8.85	8.00	6.75	6.05
DBSMF-25S	25	Socket	12.01	11.03	9.96	8.12	7.19
DCSM-37P	37	Pin	10.79	9.89	9.04	8.12	7.19
DCSM-37S	37	Socket	15.40	14.13	12.85	10.01	10.08
DCSMF-37P	37	Pin	11.60	10.65	9.65	8.61	7.64
DCSMF-37S	37	Socket	16.22	14.88	13.46	11.50	10.53
DDSM-50P	50	Pin	16.70	15.27	13.69	10.75	9.86
DDSM-50S	50	Socket	20.78	19.05	17.33	14.35	13.03
DDSMF-50S	50	Socket	21.60	19.79	17.93	14.84	13.47

MARK II CONTACTS (D-SM)

Contact terminations in standard crimp contacts.

Cinch Number	Type	Std. Pkg.	Net Each, Lots of 100-4999	5000-24,999
031-0932-004	Pin	100	$0.252	$0.210
031-0931-006	Socket	100	.344	.284

MARK III CONTACTS (D-MA)

Contact terminations have standard crimp contacts, commercial and military types.

Cinch Number Commercial	Cinch Number Military	Type	Std. Pkg.	Net Each, Lots 100-4999	5000-24,999
330-5291-000	.....	Pin	100	$0.166	$0.142
031-1007-000	.....	Socket	100	.251	.212
.....	M-24308/11-1	Pin	100	.179	.153
.....	M-24308/10-1	Socket	100	.264	.223

"DATAPHONE" CONNECTORS AND HOODS

Insulators are diallyl phthalate (FS-4) per MIL-M-19833, Type GDI-30. Hoods gray melamine, fit plug or socket connector.

Cinch Number	Description	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499
DA-19603-404	15-cont. sckt.	$ 7.29	$ 6.69	$6.13	$5.47	$4.87
DB-19604-433	25-cont. sckt.	11.42	10.45	9.50	8.56	7.60
DA-19603-403	15-pin plug	3.23	3.02	2.73	2.44	2.33
DB-19604-432	25-pin plug	4.46	4.17	3.74	3.30	3.15
DA-51225-1	15-size hood	1.63	1.46	1.17	1.07	.99
DB-51226-1	25-size hood	1.80	1.51	1.20	1.10	1.01

D-SUBMINIATURE CONNECTOR ACCESSORIES JUNCTION SHELLS

Cinch Number	Type & Size	Net Each, Lots of 1-9	10-49	50-99	100-249	250-49
DA-19678-1	Straight, A	$1.24	$1.13	$0.95	$0.76	$0.69
DB-19678-2	Straight, B	1.48	1.33	1.12	.88	.81
DC-19678-3	Straight, C	1.76	1.59	1.33	1.06	.98
DD-19678-4	Straight D	1.93	1.74	1.44	1.16	1.06
DA-19977-1	Rt.-angle, A	1.63	1.46	1.21	.98	.88
DB-19977-2	Rt.-angle, B	1.79	1.61	1.35	1.07	.99
DC-19977-3	Rt.-angle, C	1.89	1.70	1.42	1.13	1.03
DD-19977-4	Rt.-angle, D	2.06	1.84	1.53	1.22	1.12
DE-19977-5	Rt.-angle, E	2.08	1.87	1.56	1.23	1.13
DE-24657	Straight, E*	2.32	2.14	1.79	1.43	1.29
DA-24658	Straight, A*	2.29	2.12	1.75	1.40	1.32
DB-24659	Straight, B*	1.84	1.68	1.40	1.13	1.06
DC-24660	Straight, C*	1.92	1.75	1.45	1.17	1.09
DD-24661	Straight, D*	2.16	2.03	1.70	1.37	1.23

*Deep, straight clamp junction shell.

SCREW LOCK ASSEMBLIES

D-20418-2	Female, A–E	$0.48	$0.44	$0.39	$0.30	$0.28
D-20419-0	Male, A–C, E	.30	.27	.24	.20	.19
D-20420-0	Male, D	.45	.42	.34	.28	.26

CLEAR POLYPROPYLENE DUST COVERS

DA-, DB-, DC-, DD-, or DE-59-20-SKT	For sockets	$.203	$.177	$.152	$.125	$.114
DA-, DB-, DC-, DD-, or DE-60-20-PLG	For plugs	.203	.177	.152	.125	.114

SLIDING LOCK ASSEMBLIES

DE-51224-1	1.392″ long	$1.00	$0.89	$0.76	$0.61	$0.53
DA-51220-1	1.720″ long	.51	.48	.42	.34	.32
DB-51221-1	2.260″ long	.51	.47	.41	.33	.30
DC-51222-1	2.908″ long	.68	.64	.51	.43	.40
DD-51223-1	2.814″ long	.84	.77	.65	.49	.47

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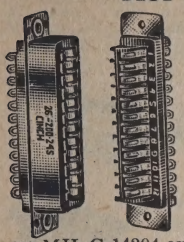
CINCH RACK, PANEL & HINGE CONNECTORS

BLUE RIBBON* CONNECTORS



Ideal and used universally in a wide variety of applications. Proven reliability combines with smooth, easy insertion action. Self-wiping and self-cleaning contacts available in linear arrays up to 32 per unit. Barrier-type polarization and interlocking mating of dielectric bodies gives easy alignment without visual aid. Ribbon contacts can't bend. Rectangular body for easy layout. Corrosion resistant, passivated stainless steel mounting plates are molded in. **Current:** 5 amps. **Voltage:** 800 VDC at sea level; 300 VDC at 70,000 ft. **Insulator:** Diallyl phthalate per MIL-M-14F, Type MDG. **Plug Contacts:** Gold per MIL-G-14204 over silver per QQ-S-365 on copper per ASTM-B-152, Type ETP. **Receptacle Contacts:** Gold per MIL-G-14204 over silver per QQ-S-365 on phosphor bronze per ASTM-B-103-51, MIL-B-892, Grade A. **Size:** (Other than shown in table below): Body ¾″ w. x ⅜″ d. below mtg. plate, socket; 15/64″ d., plug. Mtg. plate ⅞″ wide. Plug mtg. holes .125″ dia., with ctrs. 1/64″ from plate ends; socket, in bushing, .116″ dia. **Code:** Suffix indicates number of contacts (**-8, -16,** etc.); **S,** socket; **P,** plug.

Cinch Number 26-	Dimensions, In.		*Net Each, Lots of					
	Plate Lgth.	Body Lgth.	1-9	10-49	50-99	100-249	250-999	1000-2499
4100-8P	1 23/32	1 1/32	$1.25	$1.06	$0.86	$0.77	$0.64	$0.58
4200-8S	1 23/32	1 1/32	2.07	1.74	1.43	1.26	1.04	.93
4100-16P	2 15/32	1 25/32	2.35	1.98	1.61	1.46	1.18	1.08
4200-16S	2 15/32	1 25/32	3.01	2.54	2.06	1.85	1.51	1.39
4100-24P	3 7/32	2 17/32	2.85	2.39	1.94	1.74	1.44	1.29
4200-24S	3 7/32	2 17/32	3.56	3.00	2.43	2.18	1.80	1.62
4100-32P	3 31/32	3 9/32	3.31	2.78	2.25	2.04	1.67	1.50
4200-32S	3 31/32	3 9/32	4.25	3.57	2.90	2.60	2.15	1.93

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MICRO-RIBBON* CONNECTORS

Extremely small, ribbon-contact connectors suited for airborne and computer applications with high reliability. Shell type polarization; easily inserted or withdrawn without visual aid; self-wiping, self-cleaning contacts in units up to 50 per connector. Float-mounted receptacle prevents misalignment. **Current:** 5 amps. **Voltage:** 700 VDC at sea level; 200 VDC at 70,000 ft. **Insulator:** Diallyl phthalate per MIL-M-14F, Type MDG. **Contacts:** Gold plate per MIL-G-45204 over silver plate per QQ-S-365 on cadmium bronze, ASTM-B-105. **Shells:** Cadmium-plated brass (ASTM-B-36, Alloy 6) with clear chromate finish. 10500, 20500-6, -7 have additional insulator between opposite rows of contacts. Dimensions on request. Cable plugs with hoods, chassis-mounted sockets with spring latches.

Cinch No. 57-	Type	Contacts	*Net Each, Lots of					
			1-9	10-49	50-99	100-249	250-999	1000-2499
10140	R & P Plug	14	$2.16	$1.81	$1.47	$1.35	$1.09	$0.99
10240	R & P Plug	24	2.89	2.44	2.10	1.77	1.46	1.34
10360	R & P Plug	36	3.31	2.79	2.26	2.03	1.66	1.50
10500	R & P Plug	50	4.37	3.69	2.98	2.66	2.19	1.97
10500-6	R & P Plug	50	4.42	3.74	3.03	2.71	2.25	2.02
10500-7	R & P Plug	50	4.97	4.21	3.40	3.00	2.49	2.24
20140	R & P Sckt.	14	2.22	1.87	1.50	1.38	1.11	1.01
20240	R & P Sckt.	24	2.96	2.49	2.03	1.81	1.48	1.36
20360	R & P Sckt.	36	3.39	2.85	2.31	2.09	1.71	1.55
20500	R & P Sckt.	50	4.41	3.73	3.02	2.71	2.22	2.01
20500-6	R & P Sckt.	50	4.61	3.90	3.18	2.84	2.32	2.10
20500-7	R & P Sckt.	50	5.22	4.43	3.58	3.18	2.62	2.38
30140	Cable Plug	14	4.16	3.49	2.83	2.54	2.10	1.88
30240	Cable Plug	24	4.57	3.83	3.10	2.79	2.28	2.08
30360	Cable Plug	36	5.58	4.71	3.80	3.40	2.81	2.53
30500	Cable Plug	50	6.12	5.15	4.19	3.75	3.08	2.77
40140	Chassis Skt.	14	2.73	2.30	1.87	1.68	1.39	1.24
40240	Chassis Skt.	24	3.25	2.73	2.22	2.00	1.64	1.47
40360	Chassis Skt.	36	3.51	2.96	2.39	2.14	1.76	1.59
40500	Chassis Skt.	50	4.59	3.86	3.12	2.80	2.30	2.09

*Registered Bunker-Ramo trademark.

HINGE CONNECTORS

Plug and socket bodies showing contact arrangement.

No contact damage due to insertion and extraction. Maximum contact in minimum space; engaged with normal pressure. Simple locking device insures positive contact. Spring action contacts separate units after releasing the lock. Wiping contact action for clean contacts at all times. Castings are of black phenolic, type CFG. Contacts are of phosphor bronze, cadmium plated (.0001). Current rating is 4.5 amps. **Alternate Lock:** For more secure locking, order Alternate Lock No. 37AL separately. It has a special device to prevent accidental unlocking. **Caps:** Formed fiber liners, nickel-plated cable clamps. Designed to take the alternate lock when required. Black wrinkle finish.

PLUG WITH LOCK*

Cinch No.	Contacts	Mtg. Ctrs., In.	Overall Size, In.	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499*
37-M20L	20	1.375	1.750	$4.39	$3.50	$2.93	$2.35	$2.22
37-M30L	30	1.812	2.187	5.19	4.12	3.47	2.78	2.66
37-M40L	40	2.250	2.625	5.98	4.78	3.97	3.19	3.05
37-M50L	50	2.687	3.062	6.75	5.40	4.50	3.62	3.43
37-M60L	60	3.125	3.500	7.52	6.01	5.03	4.02	3.83
37-M70L	70	3.562	3.937	8.31	6.64	5.55	4.44	4.23
37-M80L	80	4.000	4.375	9.10	7.25	6.05	4.88	4.63
37-M90L	90	4.438	4.812	9.89	7.91	6.60	5.28	5.03
37-M100L	100	4.875	5.250	10.66	8.54	7.12	5.70	5.42

*To order **Socket With Lock,** change letter **M** in Cinch No. to **F** (e.g., 37-F20L). Dimensions and prices are the same.

***LARGER QUANTITY PRICING AVAILABLE ON REQUEST**

PLUG WITHOUT LOCK*

Cinch No.	Contacts	Mtg. Ctrs., In.	Overall Size, In.	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499*
37-M20	20	1.375	1.750	$3.96	$3.15	$2.66	$2.10	$2.00
37-M30	30	1.812	2.187	4.71	3.77	3.15	2.53	2.40
37-M40	40	2.250	2.625	5.52	4.42	3.67	2.95	2.81
37-M50	50	2.687	3.062	6.30	5.04	4.20	3.36	3.19
37-M60	60	3.125	3.500	7.10	5.67	4.71	3.77	3.59
37-M70	70	3.562	3.937	7.88	6.30	5.23	4.20	3.98
37-M80	80	4.000	4.375	8.67	6.93	5.76	4.63	4.40
37-M90	90	4.438	4.812	9.42	7.54	6.30	5.04	4.80
37-M100	100	4.875	5.250	10.20	8.18	6.83	5.45	5.19

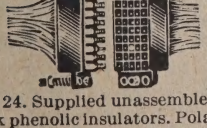
*To order **Socket Without Lock** change letter **M** in Cinch No. to **F** (e.g., 37-**F**20). Dimensions and prices are the same.

Cinch No. 37AL Alternate Lock—For above series.
Net Each, Lots of: 1–24 . . . . . **$0.90**; 25–49 . . . . . **$0.72**
Lots: 50–99 . . . **$0.59**; 100–249 . . . **$0.49**; 250–499* . . . **.48**

CAPS FOR PLUGS OR SOCKETS

Cinch No.	For Casting with No. of Contacts	Hole Size, Inches	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499*
37-C20	20	¾	$6.10	$4.90	$4.09	$3.27	$3.12
37-C30	30	13/16 x 1	6.15	4.93	4.11	3.30	3.14
37-C40	40	13/16 x 1	6.24	4.97	4.14	3.33	3.18
37-C50	50	13/16 x 1	6.30	5.04	4.20	3.36	3.19
37-C60	60	13/16 x 1 1/2	6.36	5.09	4.25	3.39	3.23
37-C70	70	13/16 x 1 1/2	6.44	5.15	4.28	3.45	3.27
37-C80	80	13/16 x 1 1/2	6.48	5.20	4.31	3.48	3.30
37-C90	90	13/16 x 1 1/2	6.57	5.23	4.39	3.50	3.33
37-C100	100	13/16 x 1 1/2	6.63	5.29	4.43	3.53	3.36

"MINI-JONES" CRIMP-ON, SNAP-IN CONNECTORS



Space saving connector provides contact density of 25 contacts per sq. inch. No tools required for inserting contacts. Pin and contact terminations accommodate either one AWG 18, 20, 22, or 24; or two AWG 22 or 24. Supplied unassembled. Tinned phosphor bronze contacts. Black phenolic insulators. Polarizing pins and lock nuts of cadmium plated brass. **Voltage:** 830 V rms, 1230 VDC. **Current:** 4.0 amperes. **Contact Resistance:** .0065 ohms, max. **Low Level Resistance:** Current flow at 0.1 μvolts; no variation at 6.5 mA and 16.25 mA. **Insulation Resistance:** 1000 megs. Standard or lock type.

STANDARD PLUG

Cinch No.	Contacts	Mtg. Ctrs., In.	Overall Size, In.	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499
MJP-19	19	1.288	1.600	$3.43	$2.73	$2.28	$1.82	$1.73
MJP-29	29	1.688	2.000	4.03	3.22	2.70	2.15	2.04
MJP-39	39	2.088	2.400	4.65	3.71	3.10	2.47	2.35
MJP-48	49	2.488	2.800	5.12	4.20	3.43	2.73	2.61
MJP-58	58	2.888	3.200	5.71	4.57	3.82	3.05	2.91
MJP-68	68	3.288	3.600	6.33	5.05	4.22	3.38	3.22

STANDARD SOCKET

Cinch No.	Contacts	Mtg. Ctrs., In.	Overall Size, In.	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499
MJS-19	19	1.288	1.600	$3.05	$2.45	$2.04	$1.64	$1.57
MJS-29	29	1.688	2.000	3.47	2.77	2.34	1.86	1.76
MJS-39	39	2.088	2.400	3.91	3.13	2.61	2.09	1.98
MJS-48	48	2.488	2.800	4.21	3.37	2.83	2.25	2.14
MJS-58	58	2.888	3.200	4.65	3.71	3.10	2.47	2.35
MJS-68	68	3.288	3.600	5.04	4.04	3.38	2.71	2.59

PLUG CONNECTOR WITH PROVISION FOR LOCK

MJP-2-19	19	1.288	1.600	$3.43	$2.73	$2.28	$1.82	$1.73
MJP-2-29	29	1.688	2.000	4.03	3.22	2.70	2.15	2.04
MJP-2-39	39	2.088	2.400	4.65	3.71	3.10	2.47	2.35
MJP-2-48	48	2.488	2.800	5.12	4.20	3.43	2.73	2.61
MJP-2-58	58	2.888	3.200	5.71	4.57	3.82	3.05	2.91
MJP-2-68	68	3.288	3.600	6.33	5.05	4.22	3.38	3.22

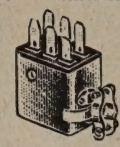
SOCKET CONNECTOR WITH PROVISION FOR LOCK

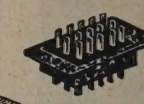
MJS-2-19	19	1.288	1.600	$4.51	$3.60	$3.01	$2.41	$2.29
MJS-2-29	29	1.688	2.000	4.93	3.94	3.29	2.63	2.49
MJS-2-39	39	2.088	2.400	5.35	4.28	3.57	2.88	2.72
MJS-2-48	48	2.488	2.800	5.66	4.53	3.78	3.02	2.89
MJS-2-58	58	2.888	3.200	6.10	4.88	4.05	3.25	3.10
MJS-2-68	68	3.288	3.600	6.49	5.23	4.36	3.47	3.29

CINCH Plugs and Sockets

300 SERIES PLUGS AND SOCKETS from famous "Jones" line, the standard for the electrical and electronic industry for many years. Small size, with good separation between contacts, for medium-duty applications. Molded phenolic insulator; 2 to 33 cadmium-plated phosphor bronze contacts; for cap or panel mounting. Polarized so only common sizes will mate. "Knife-switch" type socket contacts engage both sides of flat plug contacts. Rated 730 V rms, 10 A max. Contact resistance, .016 ohms max. UL Standard #498 rated (all contacts simultaneously) 7.5 amps, 1875 watts for 2–12 contacts; 4.5 amps, 1125 watts, 15–33 contacts.

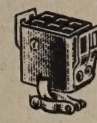
AB





CCT

CCT-L



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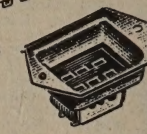
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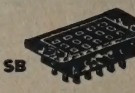

SB

PLUGS WITH ANGLE BRACKETS

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-AB	2	$0.42	$0.32	$0.29	$0.25	$0.23
P-303-AB	3	.47	.35	.31	.27	.26
P-304-AB	4	.51	.42	.34	.29	.28
P-306-AB	6	.62	.51	.44	.33	.32
P-308-AB	8	.73	.57	.49	.41	.38
P-310-AB	10	.81	.63	.55	.45	.43
P-312-AB	12	.92	.74	.59	.49	.47
P-315-AB	15	1.22	.97	.81	.63	.60
P-318-AB	18	1.45	1.18	.97	.79	.75
P-321-AB	21	1.81	1.45	1.22	.97	.94
P-324-AB	24	2.19	1.75	1.46	1.19	1.12
P-327-AB	27	2.57	2.07	1.72	1.37	1.30
P-330-AB	30	2.95	2.35	1.96	1.59	1.48
P-333-AB	33	3.30	2.63	2.20	1.75	1.69

PLUGS WITH CABLE CLAMPS/TOP

P-302-CCT	2	$0.82	$0.65	$0.55	$0.45	$0.43
P-303-CCT	3	.92	.74	.59	.49	.47
P-304-CCT	4	.96	.77	.63	.51	.49
P-306-CCT	6	1.06	.87	.74	.57	.55
P-308-CCT	8	1.19	.95	.80	.62	.59
P-310-CCT	10	1.29	1.02	.87	.72	.65
P-312-CCT	12	1.39	1.12	.95	.76	.72
P-315-CCT	15	1.85	1.48	1.26	.99	.96
P-318-CCT	18	2.17	1.73	1.45	1.18	1.08
P-321-CCT	21	2.58	2.08	1.73	1.38	1.31
P-324-CCT	24	3.03	2.42	2.04	1.64	1.53
P-327-CCT	27	3.47	2.76	2.31	1.85	1.75
P-330-CCT	30	3.90	3.11	2.60	2.09	1.98
P-333-CCT	33	4.32	3.45	2.88	2.31	2.19

PLUGS WITH CABLE CLAMPS/TOP & LOCKS

P-302-CCT-L	2	$1.01	$0.82	$0.70	$0.55	$0.52
P-303-CCT-L	3	1.08	.88	.75	.58	.56
P-304-CCT-L	4	1.18	.94	.79	.60	.58
P-306-CCT-L	6	1.29	1.02	.86	.70	.65
P-308-CCT-L	8	1.37	1.08	.94	.75	.72
P-310-CCT-L	10	1.48	1.21	1.00	.81	.77
P-312-CCT-L	12	1.59	1.28	1.05	.86	.82
P-315-CCT-L	15	2.07	1.67	1.38	1.08	1.04
P-318-CCT-L	18	2.36	1.88	1.61	1.27	1.22
P-321-CCT-L	21	2.77	2.22	1.86	1.48	1.43
P-324-CCT-L	24	3.22	2.58	2.17	1.73	1.65
P-327-CCT-L	27	3.65	2.94	2.44	1.96	1.86
P-330-CCT-L	30	4.09	3.28	2.74	2.19	2.09
P-333-CCT-L	33	4.51	3.61	3.03	2.42	2.28

PLUGS WITH CABLE CLAMPS/END

P-306-CCE	6	$1.14	$0.93	$0.77	$0.59	$0.57
P-308-CCE	8	1.23	.98	.82	.65	.62
P-310-CCE	10	1.34	1.05	.92	.74	.70
P-312-CCE	12	1.45	1.18	.97	.79	.75
P-315-CCE	15	1.89	1.51	1.28	1.01	.97
P-318-CCE	18	2.21	1.76	1.47	1.20	1.14
P-321-CCE	21	2.95	2.36	1.98	1.56	1.49
P-324-CCE	24	3.08	2.47	2.07	1.67	1.62
P-327-CCE	27	3.51	2.80	2.35	1.87	1.78
P-330-CCE	30	3.95	3.15	2.62	2.11	2.00
P-333-CCE	33	4.36	3.49	2.93	2.34	2.21

PLUGS WITH DEEP BRACKETS

P-302-DB	2	$0.98	$0.80	$0.65	$0.52	$0.51
P-303-DB	3	.99	.80	.69	.53	.51
P-304-DB	4	1.04	.84	.72	.56	.53
P-306-DB	6	1.19	.94	.79	.62	.58
P-308-DB	8	1.26	1.01	.84	.69	.63
P-312-DB	12	1.44	1.18	.97	.77	.75
P-315-DB	15	1.75	1.41	1.20	.95	.92
P-318-DB	18	2.10	1.69	1.41	1.15	1.05
P-321-DB	21	2.52	2.03	1.69	1.34	1.28
P-324-DB	24	2.95	2.36	1.98	1.59	1.49
P-327-DB	27	3.38	2.71	2.25	1.79	1.72
P-330-DB	30	3.78	3.04	2.55	2.04	1.93
P-333-DB	33	4.18	3.38	2.81	2.23	2.17

PLUGS WITH SHALLOW BRACKETS

P-315-SB	15	$1.75	$1.41	$1.20	$0.95	$0.92
P-318-SB	18	2.10	1.69	1.41	1.15	1.05
P-321-SB	21	2.52	2.03	1.69	1.34	1.28
P-324-SB	24	2.95	2.36	1.98	1.59	1.49
P-327-SB	27	3.38	2.71	2.25	1.79	1.72
P-330-SB	30	3.78	3.04	2.55	2.04	1.93
P-333-SB	33	4.18	3.38	2.81	2.23	2.17

SOCKETS WITH ANGLE BRACKETS

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-AB	2	$0.44	$0.34	$0.30	$0.26	$0.25
S-303-AB	3	.49	.41	.32	.28	.27
S-304-AB	4	.53	.44	.35	.30	.29
S-306-AB	6	.69	.53	.47	.35	.34
S-308-AB	8	.81	.64	.55	.45	.43
S-310-AB	10	.95	.76	.63	.51	.48
S-312-AB	12	1.12	.88	.76	.59	.56
S-315-AB	15	1.41	1.14	.95	.76	.73
S-318-AB	18	1.63	1.29	1.06	.87	.82
S-321-AB	21	1.99	1.62	1.32	1.04	1.01
S-324-AB	24	2.36	1.88	1.61	1.26	1.22
S-327-AB	27	2.74	2.19	1.83	1.46	1.39
S-330-AB	30	3.14	2.52	2.10	1.69	1.62
S-333-AB	33	3.51	2.80	2.34	1.86	1.78

SOCKETS WITH CABLE CLAMPS/TOP

S-302-CCT	2	$0.84	$0.70	$0.57	$0.47	$0.45
S-303-CCT	3	.94	.75	.60	.50	.48
S-304-CCT	4	.98	.80	.65	.52	.51
S-306-CCT	6	1.14	.92	.76	.59	.57
S-308-CCT	8	1.27	1.00	.84	.70	.63
S-310-CCT	10	1.43	1.16	.96	.77	.74
S-312-CCT	12	1.63	1.29	1.05	.86	.82
S-315-CCT	15	2.07	1.67	1.38	1.08	1.04
S-318-CCT	18	2.34	1.86	1.56	1.26	1.20
S-321-CCT	21	2.76	2.21	1.85	1.47	1.41
S-324-CCT	24	3.20	2.57	2.14	1.71	1.64
S-327-CCT	27	3.62	2.90	2.43	1.94	1.84
S-330-CCT	30	4.09	3.28	2.74	2.19	2.09
S-333-CCT	33	4.51	3.61	3.03	2.42	2.28

SOCKETS WITH CABLE CLAMPS/TOP & KEEPERS

S-302-CCT-K	2	$1.03	$0.84	$0.73	$0.56	$0.53
S-303-CCT-K	3	1.14	.92	.76	.59	.57
S-304-CCT-K	4	1.20	.96	.80	.62	.59
S-306-CCT-K	6	1.32	1.04	.88	.73	.69
S-308-CCT-K	8	1.46	1.19	.98	.80	.76
S-310-CCT-K	10	1.64	1.30	1.06	.87	.83
S-312-CCT-K	12	1.81	1.45	1.22	.97	.94
S-315-CCT-K	15	2.25	1.81	1.50	1.22	1.16
S-318-CCT-K	18	2.55	2.04	1.70	1.36	1.29
S-321-CCT-K	21	2.97	2.37	1.99	1.61	1.49
S-324-CCT-K	24	3.40	2.73	2.26	1.81	1.73
S-327-CCT-K	27	3.83	3.06	2.57	2.07	1.94
S-330-CCT-K	30	4.31	3.45	2.87	2.28	2.19
S-333-CCT-K	33	4.72	3.77	3.15	2.53	2.39

SOCKETS WITH CABLE CLAMPS/END

S-306-CCE	6	$1.19	$0.95	$0.81	$0.62	$0.59
S-308-CCE	8	1.31	1.03	.88	.73	.69
S-310-CCE	10	1.47	1.20	1.00	.80	.76
S-312-CCE	12	1.67	1.32	1.12	.88	.84
S-315-CCE	15	2.11	1.70	1.41	1.14	1.05
S-318-CCE	18	2.37	1.89	1.62	1.28	1.22
S-321-CCE	21	2.81	2.25	1.87	1.49	1.44
S-324-CCE	24	3.24	2.60	2.18	1.73	1.67
S-327-CCE	27	3.66	2.95	2.47	1.98	1.86
S-330-CCE	30	4.12	3.30	2.76	2.21	2.10
S-333-CCE	33	4.55	3.64	3.05	2.44	2.33

SOCKETS WITH DEEP BRACKETS

S-302-DB	2	$1.00	$0.82	$0.70	$0.55	$0.52
S-303-DB	3	1.00	.81	.70	.55	.52
S-304-DB	4	1.05	.86	.74	.57	.55
S-306-DB	6	1.22	.97	.82	.63	.60
S-308-DB	8	1.34	1.05	.92	.74	.69
S-312-DB	12	1.67	1.31	1.12	.88	.84
S-315-DB	15	1.96	1.59	1.31	1.03	.99
S-318-DB	18	2.26	1.81	1.50	1.23	1.18
S-321-DB	21	2.71	2.17	1.79	1.44	1.37
S-324-DB	24	3.12	2.51	2.10	1.69	1.61
S-327-DB	27	3.55	2.82	2.36	1.88	1.79
S-330-DB	30	3.99	3.20	2.67	2.14	2.04
S-333-DB	33	4.39	3.53	2.95	2.35	2.23

SOCKETS WITH SHALLOW BRACKETS

S-315-SB	15	$1.96	$1.59	$1.31	$1.03	$0.94
S-318-SB	18	2.26	1.81	1.50	1.23	1.18
S-321-SB	21	2.71	2.17	1.79	1.44	1.37
S-324-SB	24	3.12	2.51	2.10	1.69	1.61
S-327-SB	27	3.55	2.82	2.36	1.88	1.79
S-330-SB	30	3.99	3.20	2.67	2.14	2.04
S-333-SB	33	4.39	3.53	2.95	2.35	2.23

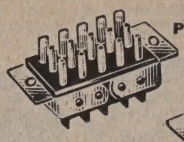
LARGER QUANTITY PRICING AVAILABLE ON REQUEST

CINCH Plugs and Sockets

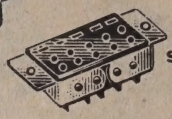
300 SERIES "JONES" PLUGS AND SOCKETS (CONTINUED)

P-306-RP

S-306-RP



P-315-EB



S-315-EB

PLUGS WITH RECESSED PLATES

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-RP	2	$0.77	$0.60	$0.52	$0.43	$0.42
P-303-RP	3	.81	.63	.55	.45	.43
P-304-RP	4	.86	.70	.57	.48	.45
P-306-RP	6	.99	.80	.62	.52	.51
P-308-RP	8	1.14	.92	.76	.59	.57
P-310-RP	10	1.30	1.00	.84	.70	.63
P-312-RP	12	1.41	1.14	.95	.76	.73

PLUGS WITH END BRACKETS

P-315-EB	15	$1.26	$0.99	$0.83	$0.69	$0.62
P-318-EB	18	1.48	1.21	.99	.80	.77
P-321-EB	21	1.85	1.47	1.25	.99	.95
P-324-EB	24	2.22	1.78	1.48	1.21	1.16
P-327-EB	27	2.60	2.09	1.74	1.39	1.32
P-330-EB	30	2.98	2.37	1.99	1.62	1.50
P-333-EB	33	3.33	2.67	2.22	1.78	1.70

SOCKETS WITH RECESSED PLATES

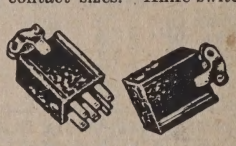
Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-RP	2	$0.81	$0.63	$0.53	$0.44	$0.43
S-303-RP	3	.83	.69	.56	.45	.44
S-304-RP	4	.88	.73	.59	.49	.47
S-306-RP	6	1.01	.82	.70	.55	.52
S-308-RP	8	1.22	.97	.82	.65	.60
S-310-RP	10	1.41	1.14	.95	.76	.73
S-312-RP	12	1.63	1.29	1.06	.87	.82

SOCKETS WITH END BRACKETS

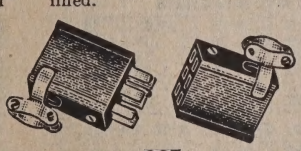
S-315-EB	15	$1.44	$1.18	$0.96	$0.77	$0.75
S-318-EB	18	2.31	1.32	1.12	.88	.84
S-321-EB	21	2.04	1.64	1.36	1.06	1.02
S-324-EB	24	2.39	1.91	1.63	1.29	1.23
S-327-EB	27	2.77	2.22	1.85	1.48	1.41
S-330-EB	30	3.18	2.55	2.12	1.71	1.63
S-333-EB	33	3.55	2.82	2.36	1.88	1.79

400 SERIES PLUGS AND SOCKETS are rated for duty beyond the range of 300 Series: 1200 V rms at 15 amps. Contact resistance, .001 ohm avg. Polarized and suitable for either cap or panel mounting in 2, 4, 6, 8, 10 and 12 contact sizes. "Knife-switch" type socket contacts of cadmium-plated phosphor bronze engage both sides of flat plug contacts. Plug prongs are cadmium-plated brass ¼" wide, 1/16" thick. Caps finished in black wrinkle and fiber lined.

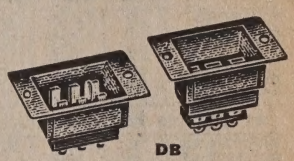
AB



CCT



CCE



DB

PLUGS WITH ANGLE BRACKETS

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-402-AB	2	$0.99	$0.80	$0.66	$0.53	$0.51
P-404-AB	4	1.22	.98	.81	.63	.60
P-406-AB	6	1.43	1.14	.97	.77	.74
P-408-AB	8	1.65	1.31	1.08	.87	.83
P-410-AB	10	1.85	1.48	1.26	1.00	.96
P-412-AB	12	2.08	1.67	1.38	1.10	1.04

PLUGS WITH CABLE CLAMPS/TOP

P-402-CCT	2	$1.64	$1.31	$1.08	$0.87	$0.83
P-404-CCT	4	1.86	1.49	1.26	1.00	.96
P-406-CCT	6	2.14	1.71	1.44	1.16	1.08
P-408-CCT	8	2.37	1.88	1.59	1.28	1.22
P-410-CCT	10	2.73	2.18	1.83	1.46	1.38
P-412-CCT	12	2.97	2.38	1.98	1.61	1.50

PLUGS WITH CABLE CLAMPS/END

P-402-CCE	2	$1.69	$1.36	$1.14	$0.92	$0.86
P-404-CCE	4	1.91	1.52	1.29	1.02	.98
P-406-CCE	6	2.19	1.75	1.46	1.19	1.11
P-408-CCE	8	2.43	1.94	1.63	1.30	1.25
P-410-CCE	10	2.77	2.21	1.86	1.49	1.41
P-412-CCE	12	3.03	2.42	2.03	1.63	1.52

PLUGS WITH DEEP BRACKETS

P-402-DB	2	$1.31	$1.04	$0.87	$0.72	$0.66
P-404-DB	4	1.61	1.28	1.05	.84	.82
P-406-DB	6	1.86	1.49	1.26	1.00	.96
P-408-DB	8	2.14	1.71	1.44	1.16	1.08
P-410-DB	10	2.42	1.93	1.63	1.30	1.25
P-412-DB	12	2.71	2.17	1.81	1.44	1.37

PLUGS WITH SHALLOW BRACKETS

P-402-SB	2	$1.27	$1.01	$0.84	$0.66	$0.63
P-404-SB	4	1.52	1.25	1.02	.82	.79
P-406-SB	6	1.81	1.45	1.23	.98	.94
P-408-SB	8	2.10	1.68	1.39	1.11	1.05
P-410-SB	10	2.37	1.88	1.61	1.28	1.22
P-412-SB	12	2.63	2.10	1.76	1.41	1.34

PLUGS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

P-402-LAB	2	$0.56	$0.47	$0.38	$0.30	$0.29
P-404-LAB	4	.79	.60	.52	.44	.41
P-406-LAB	6	1.03	.83	.72	.56	.53
P-408-LAB	8	1.27	1.01	.84	.66	.60
P-410-LAB	10	1.61	1.29	1.06	.86	.82
P-412-LAB	12	1.85	1.48	1.25	.99	.96

*Except in 2-contact size.

SOCKETS WITH ANGLE BRACKETS

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-402-AB	2	$1.16	$0.93	$0.77	$0.60	$0.58
S-404-AB	4	1.48	1.19	.99	.80	.76
S-406-AB	6	1.81	1.45	1.23	.98	.94
S-408-AB	8	2.14	1.71	1.43	1.15	1.06
S-410-AB	10	2.45	1.97	1.65	1.31	1.26
S-412-AB	12	2.79	2.22	1.86	1.49	1.43

SOCKETS WITH CABLE CLAMPS/TOP

S-402-CCT	2	$1.85	$1.48	$1.25	$0.99	$0.96
S-404-CCT	4	2.20	1.76	1.48	1.19	1.11
S-406-CCT	6	2.57	2.07	1.71	1.37	1.30
S-408-CCT	8	2.90	2.35	1.96	1.55	1.49
S-410-CCT	10	3.28	2.62	2.20	1.79	1.69
S-412-CCT	12	3.65	2.90	2.43	1.96	1.86

SOCKETS WITH CABLE CLAMPS/END

S-402-CCE	2	$1.89	$1.51	$1.28	$1.02	$0.98
S-404-CCE	4	2.25	1.81	1.51	1.22	1.16
S-406-CCE	6	2.62	2.10	1.75	1.41	1.34
S-408-CCE	8	2.98	2.38	1.99	1.61	1.51
S-410-CCE	10	3.33	2.67	2.22	1.79	1.70
S-412-CCE	12	3.69	2.95	2.47	1.98	1.87

SOCKETS WITH DEEP BRACKETS

S-402-DB	2	$1.48	$1.19	$0.99	$0.80	$0.76
S-404-DB	4	1.86	1.49	1.26	1.00	.96
S-406-DB	6	2.25	1.81	1.51	1.23	1.16
S-408-DB	8	2.63	2.12	1.76	1.41	1.34
S-410-DB	10	3.04	2.42	2.03	1.64	1.53
S-412-DB	12	3.43	2.74	2.28	1.84	1.74

SOCKETS WITH SHALLOW BRACKETS

S-402-SB	2	$1.43	$1.14	$0.97	$0.77	$0.74
S-404-SB	4	1.81	1.45	1.23	.98	.94
S-406-SB	6	2.20	1.78	1.48	1.19	1.11
S-408-SB	8	2.59	2.09	1.74	1.38	1.31
S-410-SB	10	2.37	1.99	1.99	1.62	1.51
S-412-SB	12	3.37	2.71	2.25	1.81	1.71

SOCKETS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

S-402-LAB	2	$0.73	$0.57	$0.49	$0.38	$0.35
S-404-LAB	4	1.04	.83	.72	.57	.55
S-406-LAB	6	1.37	1.08	.93	.75	.72
S-408-LAB	8	1.70	1.36	1.15	.93	.86
S-410-LAB	10	2.03	1.64	1.36	1.06	1.03
S-412-LAB	12	2.36	1.88	1.56	1.27	1.21

*Except in 2-contact size.

LARGER QUANTITY PRICING AVAILABLE ON REQUEST

CINCH Plugs and Sockets

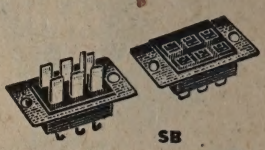
"JONES" PLUGS AND SOCKETS 2400 SERIES

2400 SERIES PLUGS AND SOCKETS are designed for excellent electrical and mechanical performance. Ratings are the same as 400 Series, except for higher (1700 volts) voltage rating. Fully interchangeable with corresponding units of the 400 Series.

CCT

CCE

DB



SB

PLUGS WITH CABLE CLAMPS/TOP

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-2402-CCT	2	$1.72	$1.38	$1.16	$0.93	$0.87
P-2404-CCT	4	1.96	1.55	1.31	1.04	1.00
P-2406-CCT	6	2.19	1.75	1.46	1.19	1.11
P-2408-CCT	8	2.42	1.94	1.64	1.30	1.25
P-2410-CCT	10	2.67	2.14	1.78	1.43	1.36
P-2412-CCT	12	2.79	2.23	1.87	1.49	1.41

PLUGS WITH CABLE CLAMPS/END

P-2402-CCE	2	$1.76	$1.43	$1.20	$0.96	$0.92
P-2404-CCE	4	2.01	1.62	1.34	1.06	1.02
P-2406-CCE	6	2.23	1.79	1.50	1.22	1.16
P-2408-CCE	8	2.47	1.98	1.67	1.32	1.27
P-2410-CCE	10	2.72	2.19	1.83	1.45	1.38
P-2412-CCE	12	2.96	2.37	1.97	1.56	1.50

PLUGS WITH DEEP BRACKETS

P-2402-DB	2	$1.36	$1.06	$0.92	$0.74	$0.70
P-2404-DB	4	1.56	1.22	1.04	.84	.81
P-2406-DB	6	1.81	1.44	1.22	.98	.93
P-2408-DB	8	2.03	1.64	1.36	1.06	1.03
P-2410-DB	10	2.25	1.81	1.50	1.22	1.16
P-2412-DB	12	2.47	1.98	1.67	1.32	1.27

PLUGS WITH SHALLOW BRACKETS

P-2402-SB	2	$1.26	$1.00	$0.83	$0.66	$0.63
P-2404-SB	4	1.48	1.19	.99	.80	.76
P-2406-SB	6	1.70	1.36	1.14	.93	.86
P-2408-SB	8	1.93	1.55	1.29	1.22	1.10
P-2410-SB	10	2.15	1.72	1.44	1.16	1.08
P-2412-SB	12	2.40	1.89	1.61	1.28	1.22

PLUGS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

P-2402-LAB	2	$0.72	$0.56	$0.48	$0.35	$0.34
P-2404-LAB	4	.93	.75	.60	.50	.48
P-2406-LAB	6	1.16	.93	.77	.60	.58
P-2408-LAB	8	1.37	1.08	.93	.75	.72
P-2410-LAB	10	1.62	1.28	1.05	.86	.82
P-2412-LAB	12	1.83	1.46	1.23	.98	.94

*Except in 2 contact size.

SOCKETS WITH CABLE CLAMPS/TOP

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-2402-CCT	2	$1.87	$1.20	$1.27	$1.00	$0.97
S-2404-CCT	4	2.08	1.67	1.38	1.10	1.04
S-2406-CCT	6	2.33	1.85	1.53	1.26	1.19
S-2408-CCT	8	2.57	2.07	1.71	1.37	1.30
S-2410-CCT	10	2.81	2.23	1.87	1.50	1.43
S-2412-CCT	12	3.05	2.44	2.04	1.64	1.55

SOCKETS WITH CABLE CLAMPS/END

S-2402-CCE	2	$1.93	$1.53	$1.29	$1.02	$0.99
S-2404-CCE	4	2.12	1.70	1.43	1.14	1.06
S-2406-CCE	6	2.37	1.88	1.61	1.28	1.22
S-2408-CCE	8	2.61	2.10	1.75	1.39	1.32
S-2410-CCE	10	2.86	2.28	1.91	1.52	1.45
S-2412-CCE	12	3.11	2.49	2.09	1.67	1.56

SOCKETS WITH DEEP BRACKETS

S-2402-DB	2	$1.45	$1.18	$0.98	$0.79	$0.75
S-2404-DB	4	1.69	1.36	1.14	.92	.86
S-2406-DB	6	1.93	1.53	1.29	1.02	.99
S-2408-DB	8	2.17	1.72	1.45	1.18	1.08
S-2410-DB	10	2.39	1.91	1.61	1.29	1.23
S-2412-DB	12	2.62	2.11	1.76	1.41	1.34

SOCKETS WITH SHALLOW BRACKETS

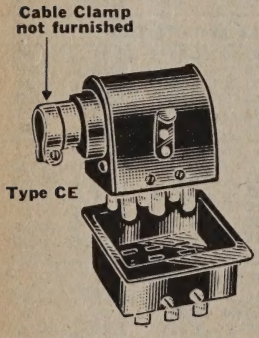
S-2402-SB	2	$1.36	$1.06	$0.92	$0.74	$0.70
S-2404-SB	4	1.59	1.28	1.05	.84	.81
S-2406-SB	6	1.83	1.46	1.23	.98	.94
S-2408-SB	8	2.07	1.65	1.38	1.10	1.04
S-2410-SB	10	2.31	1.84	1.52	1.25	1.18
S-2412-SB	12	2.55	2.03	1.70	1.36	1.29

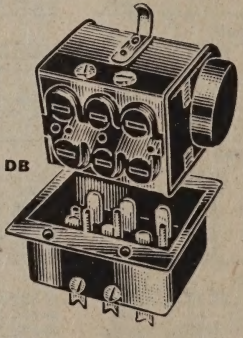
SOCKETS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

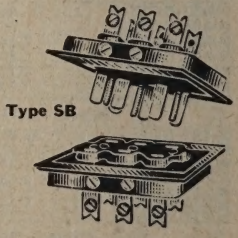
S-2402-LAB	2	$0.80	$0.63	$0.53	$0.44	$0.43
S-2404-LAB	4	1.02	.82	.72	.56	.53
S-2406-LAB	6	1.28	1.01	.84	.70	.63
S-2408-LAB	8	1.50	1.22	1.01	.81	.77
S-2410-LAB	10	1.74	1.39	1.18	.94	.88
S-2412-LAB	12	1.97	1.61	1.32	1.04	1.00

*Except in 2 contact size.

"JONES" PLUGS AND SOCKETS 500 SERIES







500 SERIES PLUGS AND SOCKETS feature three types—**Type DB** with deep bracket for recessed mounting; **Type CE** for cable clamp in end; **Type SB** with shallow bracket for flush mounting. **Rated Voltage:** 3 kV, max. **Rated Current:** 25 amperes per contact. **Power Capacity:** 5 kW, max. **Contacts:** Male, cadmium plated brass; Female, cadmium plated phosphor. **Caps and Brackets:** Parkerized steel.

DEEP BRACKET FOR RECESSED MOUNTING

Cinch Number Plug	Cinch Number Socket	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249
P-502-DB	S-502-DB	2	$12.14	$ 9.75	$ 7.62	$ 6.57
P-504-DB	S-504-DB	4	13.93	11.13	9.03	7.98
P-506-DB	S-506-DB	6	15.59	12.47	10.36	9.31
P-508-DB	S-508-DB	8	17.01	13.63	11.51	10.41
P-510-DB	S-510-DB	10	18.45	14.77	12.67	11.60
P-512-DB	S-512-DB	12	19.47	15.65	13.54	12.47

CABLE CLAMP IN END

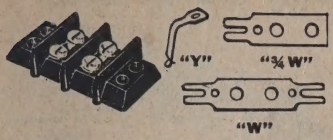
Cinch Number Plug	Cinch Number Socket	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249
P-502-CE	S-502-CE	2	$14.36	$11.50	$ 9.38	$ 8.33
P-504-CE	S-504-CE	4	16.59	13.25	11.13	10.09
P-506-CE	S-506-CE	6	18.13	14.50	12.39	11.32
P-508-CE	S-508-CE	8	19.01	15.19	13.09	12.00
P-510-CE	S-510-CE	10	20.77	16.63	14.50	13.45
P-512-CE	S-512-CE	12	22.10	17.69	15.58	14.50

SHALLOW BRACKET FOR FLUSH MOUNTING

P-502-SB	S-502-SB	2	$12.14	$ 9.75	$ 7.62	$ 6.57
P-504-SB	S-504-SB	4	13.93	11.13	9.03	7.98
P-506-SB	S-506-SB	6	15.59	12.47	10.36	9.31
P-508-SB	S-508-SB	8	17.01	13.63	11.51	10.41
P-510-SB	S-510-SB	10	18.45	14.77	12.67	11.60
P-512-SB	S-512-SB	12	19.47	15.65	13.54	12.47

LARGER QUANTITY PRICING AVAILABLE ON REQUEST

CINCH Barrier Terminal Blocks



Barrier design for high voltage rating and protection against frayed wire. Molded phenolic base with eyelets and binder head screws nickel plated brass. **Terminals:** Hot solder-dipped brass. Available with **Y** or **¾W** as indicated. **W** terminals on special order only.

	Type 140	Type 141	Type 142	Type 150*	Type 151*	Type 152*	Type 164
Size, W. x H.	⅞" x 15/16"	1⅛" x ½"	1 5/16" x 5/8"	1 13/16" x ¾"	2" x 15/16"	2½" x 1⅛"	⅞" x 15/16"
Barrier Spacing	⅜"	7/16"	9/16"	11/16"	⅞"	1 1/16"	⅜"
Mounting Centers	11/16"	17/64"	½"	5/8"	¾"	⅞"	5/16"
Mtg. Hole Dia.	.160"	.175/.185"	.209"	.160"	.180"	.209"	.171/.175"
Screw Size	5-40 x 5/16"	6-32 x ¼"	8-32 x 5/16"	10-32 x 5/16"	12-32 x ⅜"	¼-28 x ½"	6-32 x ¼"

*Have .136" dia. hole centered between mounting holes.

140 SERIES

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
1-140	1	$0.26	$0.20	$0.18	$0.16	$0.15	$0.14
2-140	2	.30	.26	.21	.18	.17	.16
3-140	3	.34	.29	.25	.20	.19	.18
4-140	4	.45	.34	.30	.26	.25	.21
5-140	5	.54	.44	.35	.31	.30	.28
6-140	6	.62	.51	.44	.34	.31	.33
7-140	7	.73	.57	.50	.40	.37	.35
8-140	8	.82	.67	.55	.45	.44	.41
9-140	9	.93	.74	.59	.50	.48	.45
10-140	10	1.00	.81	.70	.54	.52	.50
11-140	11	1.07	.87	.74	.57	.55	.53
12-140	12	1.21	.96	.80	.62	.59	.57
13-140	13	1.28	1.01	.87	.71	.65	.61
14-140	14	1.38	1.10	.94	.75	.72	.67
15-140	15	1.46	1.20	.98	.79	.76	.73
16-140	16	1.55	1.25	1.03	.83	.80	.76
17-140	17	1.66	1.31	1.10	.91	.83	.80
18-140	18	1.74	1.40	1.19	.94	.91	.83
19-140	19	1.83	1.45	1.23	.98	.94	.91
20-140	20	1.92	1.54	1.29	1.01	.98	.94
21-140†	21	2.03	1.63	1.36	1.05	1.01	.97

141 SERIES

1-141	1	$0.30	$0.25	$0.21	$0.18	$0.16	$0.16
2-141	2	.33	.27	.23	.19	.18	.17
3-141	3	.45	.34	.30	.25	.23	.21
4-141	4	.57	.48	.40	.32	.31	.30
5-141	5	.73	.55	.52	.42	.35	.34
6-141	6	.80	.62	.54	.45	.42	.40
7-141	7	.95	.75	.62	.51	.49	.48
8-141	8	1.03	.83	.72	.56	.54	.51
9-141	9	1.18	.94	.79	.61	.58	.55
10-141	10	1.29	1.02	.87	.82	.67	.61
11-141	11	1.40	1.11	.96	.76	.73	.70
12-141	12	1.50	1.22	1.00	.81	.78	.74
13-141	13	1.65	1.30	1.07	.88	.83	.79
14-141	14	1.75	1.40	1.19	.95	.91	.86
15-141	15	1.85	1.47	1.25	.99	.95	.92
16-141	16	1.98	1.60	1.33	1.04	1.00	.96
17-141	17	2.10	1.68	1.41	1.15	1.04	1.00
18-141	18	2.21	1.77	1.47	1.20	1.15	1.05
19-141	19	2.34	1.86	1.59	1.25	1.21	1.15
20-141	20	2.47	1.97	1.66	1.25	1.21	1.15

142 SERIES

1-142	1	$0.33	$0.27	$0.23	$0.19	$0.18	$0.17
2-142	2	.40	.31	.27	.21	.23	.19
3-142	3	.53	.42	.34	.29	.28	.28
4-142	4	.71	.55	.48	.37	.35	.34
5-142	5	.83	.67	.55	.47	.44	.42
6-142	6	.98	.79	.67	.53	.51	.49
7-142	7	1.15	.92	.76	.59	.57	.54
8-142	8	1.28	1.01	.86	.70	.65	.59
9-142	9	1.41	1.15	.95	.76	.73	.70
10-142	10	1.59	1.26	1.03	.83	.80	.76
11-142	11	1.72	1.37	1.17	.92	.88	.82
12-142	12	1.85	1.47	1.25	.98	.95	.92
13-142	13	2.02	1.62	1.35	1.05	1.01	.97
14-142	14	2.16	1.73	1.44	1.18	1.10	1.02
15-142	15	2.31	1.84	1.54	1.24	1.19	1.11
16-142	16	2.47	1.97	1.66	1.31	1.25	1.20
17-142	17	2.60	2.09	1.74	1.40	1.33	1.26

150 SERIES

Optional terminal **Y** available; prices on request.

1-150	1	$0.74	$0.58	$0.51	$0.42	$0.41	$0.37
2-150	2	1.00	.81	.70	.54	.52	.50
3-150	3	1.41	1.15	.95	.76	.73	.70
4-150	4	1.82	1.45	1.23	.97	.94	.88
5-150	5	2.23	1.77	1.47	1.21	1.15	1.05
6-150	6	2.62	2.12	1.76	1.41	1.35	1.28
7-150	7	3.05	2.43	2.05	1.63	1.55	1.45
8-150	8	3.46	2.77	2.31	1.84	1.75	1.67
9-150	9	3.87	3.09	2.58	2.07	1.97	1.85
10-150	10	4.28	3.42	2.85	2.28	2.17	2.07

151 SERIES

1-151	1	$1.07	$0.87	$0.73	$0.57	$0.56	$0.54
2-151	2	1.81	1.44	1.22	.97	.93	.87
3-151	3	2.60	2.09	1.74	1.40	1.33	1.26
4-151	4	3.41	2.72	2.26	1.82	1.73	1.65
5-151	5	4.22	3.36	2.80	2.24	2.13	2.03
6-151	6	5.00	4.01	3.34	2.68	2.55	2.41
7-151	7	5.79	4.62	3.87	3.09	2.94	2.79
8-151	8	6.59	5.27	4.39	3.52	3.35	3.18

152 SERIES

1-152	1	$2.06	$1.65	$1.37	$1.17	$1.15	$1.04
2-152	2	3.01	2.41	2.02	1.66	1.62	1.50
3-152	3	4.10	3.28	2.73	2.25	2.19	2.08
4-152	4	5.20	4.15	3.48	2.92	2.77	2.62
5-152	5	6.29	5.03	4.22	3.53	3.35	3.18
6-152	6	7.39	5.92	4.93	4.14	3.93	3.73

140-Y AND ¾W SERIES

Cinch Number*	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
1-140-Y	1	$0.30	$0.25	$0.21	$0.18	$0.16	$0.16
2-140-Y	2	.37	.30	.27	.21	.20	.19
3-140-Y	3	.47	.37	.31	.29	.27	.26
4-140-Y	4	.61	.51	.44	.33	.32	.31
5-140-Y	5	.76	.60	.52	.42	.41	.37
6-140-Y	6	.94	.75	.61	.51	.47	.45
7-140-Y	7	1.01	.82	.71	.54	.52	.50
8-140-Y	8	1.18	.94	.79	.61	.58	.55
9-140-Y	9	1.30	1.02	.88	.72	.67	.61
10-140-Y	10	1.43	1.18	.97	.78	.74	.72
11-140-Y	11	1.55	1.25	1.03	.83	.80	.76
12-140-Y	12	1.71	1.36	1.17	.93	.87	.82
13-140-Y	13	1.83	1.46	1.24	.98	.95	.91
14-140-Y	14	1.98	1.60	1.33	1.04	1.00	.96
15-140-Y	15	2.12	1.70	1.41	1.15	1.05	1.01
16-140-Y	16	2.23	1.79	1.49	1.21	1.17	1.05
17-140-Y	17	2.37	1.89	1.61	1.28	1.22	1.17
18-140-Y	18	2.52	2.02	1.68	1.35	1.28	1.22
19-140-Y	19	2.62	2.12	1.76	1.41	1.35	1.28
20-140-Y	20	2.77	2.21	1.84	1.46	1.41	1.33
21-140-Y†	21	2.92	2.34	1.96	1.55	1.47	1.41

141-Y AND ¾W SERIES

1-141-Y	1	$0.35	$0.29	$0.26	$0.20	$0.19	$0.18
2-141-Y	2	.47	.35	.30	.28	.27	.26
3-141-Y	3	.62	.51	.44	.33	.32	.32
4-141-Y	4	.82	.67	.55	.45	.44	.41
5-141-Y	5	.99	.80	.66	.53	.51	.49
6-141-Y	6	1.15	.93	.78	.59	.57	.55
7-141-Y	7	1.35	1.05	.92	.73	.71	.65
8-141-Y	8	1.49	1.21	1.00	.81	.78	.74
9-141-Y	9	1.67	1.33	1.11	.91	.86	.80
10-141-Y	10	1.84	1.46	1.24	.99	.95	.91
11-141-Y	11	2.03	1.63	1.36	1.05	1.01	.97
12-141-Y	12	2.19	1.75	1.45	1.19	1.11	1.04
13-141-Y	13	2.37	1.89	1.61	1.28	1.22	1.17
14-141-Y	14	2.56	2.06	1.72	1.37	1.30	1.24
15-141-Y	15	2.72	2.18	1.82	1.45	1.38	1.31
16-141-Y	16	2.92	2.34	1.96	1.55	1.47	1.41
17-141-Y	17	3.09	2.48	2.08	1.67	1.59	1.47
18-141-Y	18	3.27	2.61	2.19	1.75	1.67	1.60
19-141-Y	19	3.48	2.78	2.31	1.84	1.76	1.68
20-141-Y	20	3.63	2.92	2.43	1.96	1.84	1.75

142-Y AND ¾W SERIES

1-142-Y	1	$0.41	$0.32	$0.28	$0.23	$0.21	$0.20
2-142-Y	2	.54	.45	.35	.31	.30	.29
3-142-Y	3	.75	.59	.51	.38	.37	.37
4-142-Y	4	.99	.80	.67	.53	.51	.49
5-142-Y	5	1.21	.96	.81	.65	.59	.57
6-142-Y	6	1.43	1.17	.96	.78	.74	.71
7-142-Y	7	1.66	1.31	1.10	.91	.83	.80
8-142-Y	8	1.85	1.47	1.25	.98	.95	.92
9-142-Y	9	2.08	1.67	1.38	1.10	1.03	.99
10-142-Y	10	2.31	1.84	1.54	1.24	1.19	1.11
11-142-Y	11	2.52	2.03	1.70	1.35	1.28	1.22
12-142-Y	12	2.73	2.19	1.83	1.45	1.40	1.31
13-142-Y	13	2.97	2.37	1.98	1.60	1.50	1.43
14-142-Y	14	3.18	2.55	2.13	1.71	1.63	1.52
15-142-Y	15	3.42	2.72	2.26	1.82	1.73	1.65
16-142-Y	16	3.62	2.92	2.43	1.94	1.84	1.75
17-142-Y	17	3.85	3.07	2.57	2.07	1.96	1.84

*For ¾W Series, substitute **¾W** for **Y**, e.g., 1-142-**¾W**; prices on request. Mounting centers and lengths same as 142 Series.
†Also available 22, 23, 24 and 25 contacts; prices on request.

164 SERIES

Mounting centers and overall lengths same as 140 Series. Optional terminals **¾W** and **Y** available; prices on request.

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
1-164	1	$0.28	$0.23	$0.19	$0.17	$0.16	$0.15
2-164	2	.33	.27	.23	.19	.18	.17
3-164	3	.42	.32	.28	.23	.21	.20
4-164	4	.53	.44	.35	.29	.28	.28
5-164	5	.62	.52	.45	.34	.33	.32
6-164	6	.76	.58	.51	.42	.40	.37
7-164	7	.86	.70	.56	.48	.45	.42
8-164	8	.96	.78	.65	.52	.50	.48
9-164	9	1.01	.84	.71	.55	.53	.51
10-164	10	1.19	.95	.79	.61	.58	.56
11-164	11	1.28	1.01	.86	.70	.65	.59
12-164	12	1.38	1.10	.94	.75	.72	.67
13-164	13	1.47	1.21	.99	.80	.76	.73
14-164	14	1.62	1.29	1.05	.87	.82	.79
15-164	15	1.73	1.37	1.17	.93	.88	.82
16-164	16	1.83	1.45	1.23	.98	.94	.91
17-164	17	1.92	1.54	1.29	1.01	.98	.94
18-164	18	2.05	1.65	1.37	1.07	1.02	.98
19-164	19	2.15	1.72	1.43	1.17	1.07	1.02
20-164	20	2.25	1.81	1.50	1.22	1.18	1.07
21-164	21	2.36	1.89	1.60	1.26	1.22	1.17

CINCH Barrier Terminal Blocks

500 SERIES TERMINAL BLOCKS

Designed for critical electrical and mechanical requirements. Closed bottoms eliminate need for insulating strips. Knock-outs are molded in so "Y" terminals are acceptable if desired. Top-mounted marker strip available. **Series 540:** Terminals on ⅜" centers; 5-40 binder head screws. Rated 2300 V rms, 15 A max. Size, 1⅛" w. x 31/64" h. **Series 541:** Terminals on ½" ctrs.; 6-32 binder head screws. Rated 2800 V rms, 20 A max. Size, 1⅜" w. x 11/16" h. **Series 542:** Terminals on ½" ctrs.; 8-32 binder head screws. Rated 4000 V rms, 30 A max. Size, 1⅝" w. x ⅞" h.

540 SERIES

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
2-540	2	$0.70	$0.54	$0.48	$0.37	$0.35	$0.33
3-540	3	.94	.75	.61	.51	.49	.42
4-540	4	1.15	.92	.76	.60	.57	.50
5-540	5	1.20	.95	.80	.62	.59	.56
6-540	6	1.61	1.28	1.07	.87	.71	.65
7-540	7	1.46	1.22	1.00	.81	.78	.74
8-540	8	1.68	1.35	1.15	.92	.87	.81
9-540	9	1.83	1.46	1.24	.98	.95	.91
10-540	10	2.02	1.62	1.35	1.05	1.01	.97
11-540	11	2.18	1.74	1.45	1.19	1.11	1.03
12-540	12	2.34	1.86	1.59	1.25	1.21	1.21
13-540	13	2.52	2.02	1.68	1.35	1.28	1.22
14-540	14	2.68	2.15	1.79	1.43	1.37	1.29
15-540	15	2.83	2.26	1.89	1.50	1.44	1.37
16-540	16	3.01	2.41	2.02	1.62	1.52	1.44
17-540	17	3.18	2.55	2.13	1.71	1.63	1.52
18-540	18	3.34	2.68	2.23	1.77	1.71	1.62
19-540	19	3.51	2.80	2.34	1.86	1.77	1.70
20-540	20	3.66	2.94	2.47	1.97	1.86	1.76
21-540	21	3.84	3.07	2.56	2.06	1.96	1.84
22-540	22	4.01	3.20	2.68	2.15	2.05	1.93
23-540	23	4.16	3.34	2.79	2.23	2.13	2.02
24-540	24	4.33	3.48	2.91	2.31	2.20	2.09
25-540	25	4.50	3.60	3.01	2.41	2.28	2.17
26-540	26	4.69	3.73	3.12	2.50	2.37	2.24
27-540	27	4.81	3.87	3.22	2.58	2.47	2.33
28-540	28	5.00	4.01	3.34	2.68	2.55	2.41
29-540	29	5.18	4.12	3.46	2.77	2.62	2.49
30-540	30	5.33	4.28	3.56	2.84	2.71	2.57
31-540	31	5.50	4.39	3.66	2.94	2.79	2.64

541 SERIES

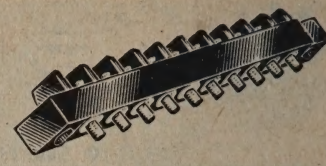
2-541	2	$0.83	$0.70	$0.56	$0.47	$0.45	$0.42
3-541	3	1.00	.81	.69	.54	.52	.50
4-541	4	1.20	.95	.80	.62	.59	.56
5-541	5	1.35	1.05	.92	.73	.71	.65
6-541	6	1.61	1.28	1.07	.87	.78	.74
7-541	7	1.72	1.37	1.17	.93	.88	.82
8-541	8	1.86	1.49	1.25	.99	.96	.92
9-541	9	2.05	1.65	1.37	1.07	1.02	.98
10-541	10	2.20	1.76	1.46	1.20	1.15	1.04
11-541	11	2.36	1.89	1.60	1.26	1.22	1.17
12-541	12	2.59	2.07	1.72	1.37	1.30	1.24
13-541	13	2.72	2.18	1.82	1.45	1.38	1.31
14-541	14	2.91	2.31	1.94	1.55	1.46	1.40
15-541	15	3.07	2.47	2.06	1.65	1.55	1.46
16-541	16	3.22	2.58	2.16	1.73	1.65	1.55
17-541	17	3.44	2.73	2.28	1.83	1.74	1.66
18-541	18	3.57	2.85	2.40	1.92	1.82	1.73
19-541	19	3.74	3.01	2.52	2.02	1.92	1.81
20-541	20	3.92	3.13	2.61	2.10	1.99	1.87
21-541	21	4.07	3.27	2.72	2.18	2.08	1.97
22-541	22	4.29	3.42	2.85	2.28	2.18	2.07
23-541	23	4.46	3.56	2.98	2.37	2.25	2.15
24-541	24	4.60	3.69	3.08	2.47	2.34	2.21
25-541	25	4.78	3.84	3.19	2.56	2.43	2.30
26-541	26	4.95	3.96	3.30	2.64	2.52	2.37
27-541	27	5.16	4.10	3.44	2.75	2.60	2.48
28-541	28	5.29	4.27	3.55	2.83	2.70	2.56
29-541	29	5.46	4.36	3.65	2.93	2.78	2.62
30-541	30	5.63	4.50	3.75	3.02	2.85	2.71

542 SERIES

2-542	2	$0.92	$0.73	$0.59	$0.50	$0.48	$0.45
3-542	3	1.11	.92	.76	.58	.56	.54
4-542	4	1.35	1.05	.92	.73	.71	.65
5-542	5	1.55	1.25	1.03	.83	.80	.76
6-542	6	1.77	1.42	1.21	.96	.92	.87
7-542	7	2.02	1.62	1.35	1.05	1.01	.97
8-542	8	2.23	1.77	1.47	1.21	1.15	1.05
9-542	9	2.45	1.96	1.65	1.31	1.25	1.20
10-542	10	2.68	2.15	1.77	1.42	1.36	1.29
11-542	11	2.91	2.31	1.94	1.55	1.46	1.40
12-542	12	3.11	2.49	2.08	1.67	1.60	1.49
13-542	13	3.34	2.68	2.23	1.77	1.71	1.62
14-542	14	3.55	2.84	2.37	1.89	1.81	1.72
15-542	15	2.62	3.02	2.54	2.03	1.89	1.82
16-542	16	4.01	3.20	2.68	2.15	2.05	1.93
17-542	17	4.25	3.38	2.82	2.25	2.15	2.05
18-542	18	4.45	3.55	2.97	2.37	2.25	2.15
19-542	19	4.69	3.73	3.11	2.49	2.36	2.24
20-542	20	4.88	3.91	3.27	2.61	2.49	2.35
21-542	21	5.10	4.08	3.42	2.72	2.59	2.47
22-542	22	5.33	4.28	3.56	2.84	2.71	2.57
23-542	23	5.54	4.45	3.71	2.97	2.82	2.68
24-542	24	5.77	4.60	3.86	3.08	2.93	2.78
25-542	25	6.00	4.79	4.01	3.20	3.05	2.87
26-542	26	6.22	4.98	4.14	3.31	3.15	3.00

176 SERIES PC BARRIER TERMINAL BLOCKS

Feature molded-in terminals that cannot break loose when terminal screw is tightened. Designed for flow solder termination to the PC board conductor paths. Blocks listed are for 1/16" PC boards. To order blocks for ⅛" PC boards, change last digit to 3 (e.g., 2-176-3) same price.



Cinch No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
2-176-2	2	$0.99	$0.79	$0.66	$0.54	$0.51	$0.49
3-176-2	3	1.13	.91	.75	.60	.57	.55
4-176-2	4	1.26	1.01	.86	.69	.65	.61
5-176-2	5	1.38	1.10	.93	.74	.71	.67
6-176-2	6	1.52	1.22	1.02	.82	.78	.74
7-176-2	7	1.64	1.31	1.09	.88	.83	.79
8-176-2	8	1.77	1.42	1.20	.96	.92	.87
9-176-2	9	1.93	1.54	1.29	1.03	.98	.94
10-176-2	10	2.08	1.67	1.40	1.11	1.05	1.01

171 SERIES BARRIER TERMINAL BLOCKS

Miniature barrier type terminal blocks with single screw terminals. Size, 11/32" w. x 1/4" h., overall. Binder head screws, 2-56 x 3/16". Mounting holes, 1/8" dia. Rated 1000 V rms, 5 amps max.

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
2-171	2	$0.34	$0.29	$0.25	$0.19	$0.18	$0.18
3-171	3	.45	.34	.30	.25	.23	.21
4-171	4	.53	.44	.35	.29	.28	.28
5-171	5	.61	.51	.44	.33	.32	.31
6-171	6	.73	.56	.49	.40	.37	.34
7-171	7	.80	.62	.53	.44	.42	.40
8-171	8	.87	.72	.57	.48	.47	.44

172 SERIES BARRIER TERMINAL BLOCKS

Double screw terminals mounted on ¼" centers with 2-56 x 3/16" binder head screws. Mounting holes, 1/8" dia. Rated 1000 V rms, 5 amps max.

2-172	2	$0.62	$0.51	$0.44	$0.34	$0.33	$0.31
3-172	3	.80	.62	.54	.45	.42	.40
4-172	4	.97	.79	.65	.52	.51	.49
5-172	5	1.15	.92	.76	.59	.57	.54
6-172	6	1.30	1.02	.88	.72	.67	.61
7-172	7	1.46	1.20	.98	.79	.76	.73
8-172	8	1.65	1.30	1.07	.88	.83	.79
9-172	9	1.79	1.43	1.22	.97	.93	.87
10-172	10	1.97	1.60	1.31	1.03	1.00	.96
11-172	11	2.13	1.71	1.42	1.17	1.07	1.01
12-172	12	2.30	1.83	1.54	1.24	1.19	1.10
13-172	13	2.47	1.97	1.66	1.31	1.25	1.20
14-172	14	2.62	2.10	1.75	1.41	1.35	1.26

172-Y, ¾W OR W BARRIER TERMINALS

Series 172 barrier type terminal blocks also available with **Y**, **W** or **¾W** terminals. For blocks with **W** terminals, change suffix **Y** to **W**; for **¾W** terminals, change suffix **Y** to **¾W** (2-172-**W**, 2-172-**¾W**); same price. Rated 1000 V rms, 5 amps max.

2-172-Y	2	$0.73	$0.57	$0.49	$0.40	$0.37	$0.35
3-172-Y	3	.94	.75	.61	.51	.49	.47
4-172-Y	4	1.15	.92	.76	.60	.57	.54
5-172-Y	5	1.35	1.05	.92	.73	.71	.65
6-172-Y	6	1.55	1.24	1.02	.83	.80	.75
7-172-Y	7	1.79	1.41	1.20	.95	.92	.86
8-172-Y	8	1.97	1.60	1.31	1.05	1.00	.96
9-172-Y	9	2.16	1.74	1.44	1.18	1.10	1.03
10-172-Y	10	2.37	1.89	1.61	1.28	1.22	1.17
11-172-Y	11	2.59	2.08	1.73	1.38	1.31	1.25
12-172-Y	12	2.79	2.23	1.86	1.49	1.42	1.35
13-172-Y	13	3.01	2.41	2.02	1.62	1.52	1.44
14-172-Y	14	3.20	2.57	2.15	1.72	1.65	1.54

173 SERIES BARRIER TERMINAL BLOCKS

Double screw terminals mounted on 3/8" centers. Size, 3/4" w. x 1/2" h., overall. Brass binder head screws, 4-40 x 5/16". Mounting holes, 1/12" dia. Rated 1000 V rms, 5 amps max.

2-173	2	$0.35	$0.29	$0.26	$0.20	$0.19	$0.18
3-173	3	.50	.40	.32	.28	.27	.27
4-173	4	.62	.52	.45	.34	.33	.32
5-173	5	.78	.61	.52	.42	.41	.37
6-173	6	.92	.73	.59	.50	.48	.45
7-173	7	1.02	.82	.71	.55	.53	.51
8-173	8	1.18	.93	.78	.61	.57	.55
9-173	9	1.28	1.01	.87	.71	.65	.61
10-173	10	1.41	1.15	.94	.76	.73	.70

174 SERIES BARRIER TERMINAL BLOCKS

Single screw terminals mounted on 3/8" centers. Size, 3/8" w. x 1/2" h., overall. Brass binder head screws, 4-40 x 5/16". Mounting holes, 1/12" dia. Rated 1000 V rms, 5 amps max.

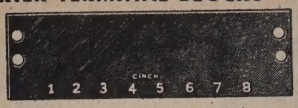
2-174	2	$0.30	$0.25	$0.20	$0.17	$0.16	$0.16
3-174	3	.40	.31	.27	.21	.20	.19
4-174	4	.51	.41	.33	.28	.27	.21
5-174	5	.58	.49	.42	.33	.31	.30
6-174	6	.72	.55	.49	.40	.33	.31
7-174	7	.80	.62	.54	.45	.42	.40
8-174	8	.92	.73	.59	.50	.48	.45
9-174	9	.99	.80	.67	.53	.51	.49
10-174	10	1.07	.87	.74	.57	.55	.53

CINCH MARKER STRIPS AND ACCESSORIES

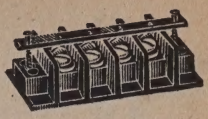
MARKER STRIPS FOR BARRIER TERMINAL BLOCKS

140 SERIES MARKER STRIPS

For labelling terminal positions on barrier terminal blocks and insulating exposed portions of terminals from metallic mounting surface. Mounting holes correspond with those on appropriate barrier terminal block. Made of 1/4" vulcanized fiber and numbered sequentially from 1 with legible white numerals.



MS-8-140



MSX-4-540 (Installed)

MARKER STRIPS FOR 140, 140W AND 140-¾ W

Cinch No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
MS-2-140	2	$0.158	$0.121	$0.109	$0.097	$0.085
MS-3-140	3	.158	.121	.109	.097	.085
MS-4-140	4	.158	.121	.109	.097	.085
MS-5-140	5	.158	.121	.109	.097	.085
MS-6-140	6	.158	.121	.109	.097	.085
MS-7-140	7	.182	.146	.121	.109	.097
MS-8-140	8	.182	.146	.121	.109	.097
MS-9-140	9	.182	.146	.121	.109	.097*
MS-10-140	10	.206	.158	.134	.121	.109*
MS-11-140	11	.206	.158	.134	.121	.109*
MS-12-140	12	.206	.158	.134	.121	.109*
MS-13-140	13	.230	.182	.158	.134	.121*
MS-14-140	14	.230	.182	.158	.134	.121*
MS-15-140	15	.230	.182	.158	.134	.121
MS-16-140	16	.255	.206	.170	.146	.134*
MS-17-140	17	.255	.206	.170	.146	.134*
MS-18-140	18	.255	.206	.170	.146	.134*
MS-19-140	19	.279	.230	.194	.158	.146*
MS-20-140	20	.279	.230	.194	.158	.146*
MS-21-140	21	.279	.230	.194	.158	.146*
MS-22-140	22	.678	.545	.460	.363	.182†
MS-23-140	23	.678	.545	.460	.363	.194†
MS-24-140	24	.823	.654	.545	.436	.218‡
MS-25-140	25	.823	.654	.545	.436	.230§

MARKER STRIPS FOR 141, 141W AND 141-¾ W

MS-2-141	2	$0.158	$0.121	$0.109	$0.097	$0.085
MS-3-141	3	.158	.121	.109	.097	.085
MS-4-141	4	.158	.121	.109	.097	.085
MS-5-141	5	.182	.146	.121	.109	.097
MS-6-141	6	.182	.146	.121	.109	.097
MS-7-141	7	.182	.146	.121	.109	.097
MS-8-141	8	.206	.158	.134	.121	.109
MS-9-141	9	.206	.158	.134	.121	.109*
MS-10-141	10	.206	.158	.134	.121	.109*
MS-11-141	11	.230	.182	.158	.134	.121*
MS-12-141	12	.230	.182	.158	.134	.121*
MS-13-141	13	.255	.206	.170	.146	.134*
MS-14-141	14	.255	.206	.170	.146	.134*
MS-15-141	15	.279	.230	.194	.158	.146*
MS-16-141	16	.279	.230	.194	.158	.146*
MS-17-141	17	.315	.242	.206	.170	.158*
MS-18-141	18	.315	.242	.206	.170	.158*
MS-19-141	19	.327	.267	.218	.182	.170*
MS-20-141	20	.327	.267	.218	.182	.170*

MARKER STRIPS FOR 142, 142W AND 142-¾ W

MS-2-142	2	$0.158	$0.121	$0.109	$0.097	$0.085
MS-3-142	3	.158	.121	.109	.097	.085
MS-4-142	4	.182	.146	.121	.109	.097
MS-5-142	5	.182	.146	.121	.109	.097
MS-6-142	6	.182	.146	.121	.109	.097
MS-7-142	7	.206	.158	.134	.121	.109
MS-8-142	8	.206	.158	.134	.121	.109
MS-9-142	9	.230	.182	.158	.134	.121*
MS-10-142	10	.255	.206	.170	.146	.134*
MS-11-142	11	.255	.206	.170	.146	.134*
MS-12-142	12	.279	.230	.194	.158	.146*
MS-13-142	13	.279	.230	.194	.158	.146*
MS-14-142	14	.315	.242	.206	.170	.158*
MS-15-142	15	.315	.242	.206	.170	.158*
MS-16-142	16	.351	.279	.242	.194	.182*
MS-17-142	17	.388	.303	.255	.206	.194*

*For Lots of: 500–999 subtract $0.011;†$0.022; ‡$0.033;§$0.044 from 250–499 price.

500 SERIES MARKER STRIPS

For labelling terminal positions on "500" series barrier terminal blocks. Made of 1/16" XP phenolic, 1/4" wide. Numbered sequentially from 1 with 1/8" legible white numerals. Mounted on top of terminal block as illustrated. Mounting screws furnished.

MARKER STRIPS FOR 540

Cinch No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
MSX-2-540	2	$0.206	$0.158	$0.134	$0.121	$0.109
MSX-3-540	3	.206	.158	.134	.121	.109
MSX-4-540	4	.206	.158	.134	.121	.109
MSX-5-540	5	.206	.158	.134	.121	.109
MSX-6-540	6	.206	.158	.134	.121	.109
MSX-7-540	7	.206	.158	.134	.121	.109
MSX-8-540	8	.206	.158	.134	.121	.121
MSX-9-540	9	.206	.158	.134	.121	.109
MSX-10-540	10	.206	.158	.134	.121	.109
MSX-11-540	11	.230	.182	.158	.134	.121
MSX-12-540	12	.230	.182	.158	.134	.121
MSX-13-540	13	.230	.182	.158	.134	.121
MSX-14-540	14	.230	.182	.158	.134	.121
MSX-15-540	15	.230	.182	.158	.134	.121
MSX-16-540	16	.230	.182	.158	.134	.121
MSX-17-540	17	.255	.206	.170	.146	.134
MSX-18-540	18	.255	.206	.170	.146	.134
MSX-19-540	19	.255	.206	.170	.146	.134
MSX-20-540	20	.255	.206	.170	.146	.134
MSX-21-540	21	.255	.206	.170	.146	.134
MSX-22-540	22	.279	.230	.194	.158	.146
MSX-23-540	23	.279	.230	.194	.158	.146
MSX-24-540	24	.327	.267	.218	.182	.170
MSX-25-540	25	.327	.267	.218	.182	.170
MSX-26-540	26	.327	.267	.218	.182	.170
MSX-27-540	27	.327	.267	.218	.182	.170
MSX-28-540	28	.327	.267	.218	.182	.170
MSX-29-540	29	.351	.279	.242	.194	.182
MSX-30-540	30	.351	.279	.242	.194	.182
MSX-31-540	31	.351	.279	.242	.194	.182

MARKER STRIPS FOR 541

MSX-2-541	2	$0.206	$0.158	$0.134	$0.121	$0.109
MSX-3-541	3	.206	.158	.134	.121	.109
MSX-4-541	4	.206	.158	.134	.121	.109
MSX-5-541	5	.206	.158	.134	.121	.109
MSX-6-541	6	.206	.158	.134	.121	.109
MSX-7-541	7	.206	.158	.134	.121	.109
MSX-8-541	8	.206	.158	.134	.121	.109
MSX-9-541	9	.206	.158	.134	.121	.109
MSX-10-541	10	.206	.158	.134	.121	.109
MSX-11-541	11	.230	.182	.158	.134	.121
MSX-12-541	12	.230	.182	.158	.134	.121
MSX-13-541	13	.230	.182	.158	.134	.121
MSX-14-541	14	.230	.182	.158	.134	.121
MSX-15-541	15	.230	.182	.158	.134	.121
MSX-16-541	16	.255	.206	.170	.146	.134
MSX-17-541	17	.255	.206	.170	.146	.134
MSX-18-541	18	.255	.206	.170	.146	.134
MSX-19-541	19	.255	.206	.170	.146	.134
MSX-20-541	20	.255	.206	.170	.146	.134
MSX-21-541	21	.315	.242	.206	.170	.158
MSX-22-541	22	.315	.242	.206	.170	.158
MSX-23-541	23	.327	.267	.218	.182	.170
MSX-24-541	24	.327	.267	.218	.182	.170
MSX-25-541	25	.327	.267	.218	.182	.170
MSX-26-541	26	.327	.267	.218	.182	.170
MSX-27-541	27	.327	.267	.218	.182	.170
MSX-28-541	28	.351	.279	.242	.194	.182
MSX-29-541	29	.351	.279	.242	.194	.182
MSX-30-541	30	.351	.279	.242	.194	.182

MARKER STRIPS FOR 542

MSX-2-542	2	$0.206	$0.158	$0.134	$0.121	$0.109
MSX-3-542	3	.206	.158	.134	.121	.109
MSX-4-542	4	.206	.158	.134	.121	.109
MSX-5-542	5	.206	.158	.134	.121	.109
MSX-6-542	6	.206	.158	.134	.121	.109
MSX-7-542	7	.230	.182	.158	.134	.121
MSX-8-542	8	.230	.182	.158	.134	.121
MSX-9-542	9	.230	.182	.158	.134	.121
MSX-10-542	10	.230	.182	.158	.134	.121
MSX-11-542	11	.230	.182	.158	.134	.121
MSX-12-542	12	.255	.206	.170	.146	.134
MSX-13-542	13	.255	.206	.170	.146	.134
MSX-14-542	14	.255	.206	.170	.146	.134
MSX-15-542	15	.255	.206	.170	.146	.134
MSX-16-542	16	.315	.242	.206	.170	.158
MSX-17-542	17	.315	.242	.206	.170	.158
MSX-18-542	18	.315	.242	.206	.170	.158
MSX-19-542	19	.327	.267	.218	.182	.170
MSX-20-542	20	.327	.267	.218	.182	.170
MSX-21-542	21	.327	.267	.218	.182	.170
MSX-22-542	22	.327	.267	.218	.182	.170
MSX-23-542	23	.327	.267	.218	.182	.170
MSX-24-542	24	.351	.279	.242	.194	.182
MSX-25-542	25	.351	.279	.242	.194	.182
MSX-26-542	26	.351	.279	.242	.194	.182

ACCESSORIES FOR BARRIER TERMINALS

JUMPERS

Cinch Number	For Series	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
95B	142	$0.303	$0.231	$0.196	$0.19	$0.17
140J-1	140	.157	.139	.120	.099	.079
141J	141	.157	.139	.120	.099	.079
141J-1	141	.19	.157	.139	.120	.099
142J-1	142	.19	.157	.139	.120	.099
142J-2	142	.158	.139	.120	.099	.079
540J	540	.51	.47	.39	.33	.32
541J	541	.64	.50	.41	.36	.33
542J	542	.68	.53	.47	.37	.36

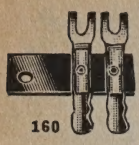
SOLDER TERMINALS

Cinch Number W-Type	Cinch Number ¾W-Type	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
W-140†	¾W-140	$0.176	$0.163	$0.148	$0.134	$0.118	$0.090
W-141†	¾W-141	.176	.163	.148	.134	.134	.105
W-142†	¾W-142	.206	.176	.163	.148	.134	.148
W-150	.....	.324	.279	.222	.206	.192	.206
W-151	.....	.455	.368	.310	.279	.250	.206
W-152	.....	.83	.66	.54	.42	.41	.38

†Change prefix W to Y for Y-type terminals; same price as W-142.

"Y" TYPE MARKER STRIPS ALSO AVAILABLE AT SLIGHT EXTRA COST

CINCH BARRIER BLOCK FANNING STRIPS


160

160A

160B

160BA

161, 162

Convenient means for rapidly connecting or disconnecting wiring from barrier terminal blocks. Facilitate cable or harness wiring and minimize the possibility of subsequent wiring errors. Available in both straight and angle types. Black XP phenolic mount, 3/32" thick x 1/2" wide, is supplied with hole in either right or left side; secures cable with lacing twine. For larger sizes, use of a cable clamp is recommended. Terminals are .032" cadmium-plated brass. **All 160 Series** fit barrier block 140 Series, 3/8" terminal centers. **Series 162** fit barrier block 142 Series, 9/16" terminal centers; 5/8" wide. **Series 161** fit barrier block 141 Series, 7/16" terminal centers.

STRAIGHT TYPE—160 SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-499
2-160-*	2	$0.39	$0.32	$0.28	$0.24	$0.22
3-160-*	3	.48	.39	.33	.28	.25
4-160-*	4	.59	.48	.40	.33	.32
5-160-*	5	.68	.57	.48	.37	.36
6-160-*	6	.79	.63	.53	.40	.39
7-160-*	7	.90	.72	.59	.48	.47
8-160-*	8	.97	.79	.65	.54	.52
9-160-*	9	1.13	.90	.77	.59	.58
10-160-*	10	1.24	1.01	.84	.65	.60
11-160-*	11	1.38	1.07	.92	.73	.68
12-160-*	12	1.52	1.20	1.03	.83	.79
13-160-*	13	1.65	1.34	1.13	.90	.85
14-160-*	14	1.74	1.39	1.17	.93	.88
15-160-*	15	1.81	1.45	1.20	.97	.93
16-160-*	16	1.97	1.57	1.34	1.06	1.01
17-160-*	17	2.03	1.61	1.38	1.07	1.05
18-160-*	18	2.12	1.68	1.42	1.14	1.07
19-160-*	19	2.24	1.78	1.51	1.19	1.16
20-160-*	20	2.33	1.86	1.57	1.24	1.18
21-160-*	21	2.45	1.97	1.64	1.29	1.24

STRAIGHT TYPE—160B SERIES

2-160B-*	2	$0.48	$0.39	$0.33	$0.28	$0.25
3-160B-*	3	.59	.48	.40	.33	.32
4-160B-*	4	.79	.63	.53	.40	.39
5-160B-*	5	.93	.76	.64	.51	.48
6-160B-*	6	1.13	.90	.77	.59	.58
7-160B-*	7	1.24	1.01	.84	.65	.64
8-160B-*	8	1.52	1.20	1.03	.83	.79
9-160B-*	9	1.68	1.38	1.14	.90	.85
10-160B-*	10	1.81	1.45	1.20	.97	.93
11-160B-*	11	2.03	1.61	1.38	1.07	1.05
12-160B-*	12	2.12	1.68	1.42	1.14	1.07
13-160B-*	13	2.33	1.86	1.57	1.24	1.18
14-160B-*	14	2.52	2.03	1.72	1.38	1.29
15-160B-*	15	2.71	2.16	1.79	1.43	1.38
16-160B-*	16	2.85	2.27	1.93	1.53	1.45
17-160B-*	17	3.02	2.42	2.03	1.61	1.53
18-160B-*	18	3.25	2.59	2.16	1.74	1.64
19-160B-*	19	3.45	2.77	2.30	1.85	1.74
20-160B-*	20	3.57	2.85	2.39	1.91	1.80
21-160B-*	21	3.72	2.99	2.51	2.00	1.91

STRAIGHT TYPE—161 SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-161-*	2	$0.41	$0.36	$0.30	$0.25	$0.24
3-161-*	3	.54	.41	.36	.30	.28
4-161-*	4	.59	.48	.40	.33	.32
5-161-*	5	.72	.58	.51	.39	.37
6-161-*	6	.83	.65	.57	.41	.40
7-161-*	7	.93	.77	.64	.51	.48
8-161-*	8	1.03	.83	.68	.58	.57
9-161-*	9	1.13	.90	.77	.59	.58
10-161-*	10	1.26	1.03	.85	.68	.64
11-161-*	11	1.43	1.17	.97	.79	.73
12-161-*	12	1.57	1.25	1.06	.84	.81
13-161-*	13	1.68	1.38	1.14	.90	.87
14-161-*	14	1.78	1.42	1.19	.94	.92
15-161-*	15	1.86	1.46	1.24	1.01	.94
16-161-*	16	1.98	1.60	1.37	1.06	1.02
17-161-*	17	2.05	1.65	1.39	1.09	1.06
18-161-*	18	2.24	1.78	1.46	1.18	1.09
19-161-*	19	2.27	1.81	1.52	1.20	1.17
20-161-*	20	2.40	1.93	1.60	1.26	1.20

STRAIGHT TYPE—162 SERIES

2-162-*	2	$0.48	$0.39	$0.33	$0.28	$0.25
3-162-*	3	.57	.47	.37	.32	.30
4-162-*	4	.68	.57	.48	.37	.36
5-162-*	5	.79	.63	.53	.40	.39
6-162-*	6	.90	.79	.65	.54	.52
7-162-*	7	.91	.79	.65	.54	.51
8-162-*	8	1.13	.90	.77	.59	.58
9-162-*	9	1.19	.94	.79	.64	.63
10-162-*	10	1.34	1.06	.90	.72	.68
11-162-*	11	1.46	1.18	1.01	.81	.77
12-162-*	12	1.65	1.34	1.13	.90	.85
13-162-*	13	1.74	1.39	1.17	.93	.88
14-162-*	14	1.81	1.45	1.20	.97	.93
15-162-*	15	1.94	1.57	1.29	1.05	1.02
16-162-*	16	2.03	1.61	1.38	1.07	1.05
17-162-*	17	2.12	1.68	1.42	1.14	1.07

ANGLE TYPE—160A SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-160A-*	2	$0.48	$0.39	$0.33	$0.28	$0.25
3-160A-*	3	.59	.48	.40	.33	.32
4-160A-*	4	.79	.63	.53	.40	.39
5-160A-*	5	.93	.76	.64	.51	—
6-160A-*	6	1.13	.90	.77	.59	.58
7-160A-*	7	1.24	1.01	.84	.65	.64
8-160A-*	8	1.52	1.20	1.03	.83	.79
9-160A-*	9	1.68	1.38	1.14	.90	.85
10-160A-*	10	1.81	1.45	1.20	.97	.93
11-160A-*	11	2.03	1.61	1.38	1.07	1.05
12-160A-*	12	2.12	1.68	1.42	1.14	1.07
13-160A-*	13	2.33	1.86	1.57	1.24	1.18
14-160A-*	14	2.52	2.03	1.72	1.38	1.29
15-160A-*	15	2.71	2.16	1.79	1.43	1.38
16-160A-*	16	2.85	2.27	1.93	1.53	1.45
17-160A-*	17	3.02	2.42	2.03	1.61	1.53
18-160A-*	18	3.25	2.59	2.16	1.74	1.64
19-160A-*	19	3.45	2.77	2.30	1.85	1.74
20-160A-*	20	3.57	2.85	2.39	1.91	1.80
21-160A-*	21	3.72	2.99	2.51	2.00	1.91

ANGLE TYPE—160BA SERIES

2-160BA-*	2	$0.48	$0.39	$0.33	$0.28	$0.25
3-160BA-*	3	.59	.48	.40	.33	.32
4-160BA-*	4	.79	.63	.53	.40	.39
5-160BA-*	5	.93	.76	.64	.51	.48
6-160BA-*	6	1.13	.90	.77	.59	.58
7-160BA-*	7	1.24	1.01	.84	.65	.64
8-160BA-*	8	1.52	1.20	1.03	.83	.79
9-160BA-*	9	1.68	1.38	1.14	.90	.85
10-160BA-*	10	1.81	1.45	1.20	.97	.93
11-160BA-*	11	2.03	1.61	1.38	1.07	1.05
12-160BA-*	12	2.12	1.68	1.42	1.14	1.07
13-160BA-*	13	2.33	1.86	1.57	1.24	1.18
14-160BA-*	14	2.52	2.03	1.72	1.38	1.29
15-160BA-*	15	2.71	2.16	1.79	1.43	1.38
16-160BA-*	16	2.85	2.27	1.93	1.53	1.45
17-160BA-*	17	3.02	2.42	2.03	1.61	1.53
18-160BA-*	18	3.25	2.59	2.16	1.74	1.64
19-160BA-*	19	3.45	2.77	2.30	1.85	1.74
20-160BA-*	20	3.57	2.85	2.39	1.91	1.80
21-160BA-*	21	3.72	2.99	2.51	2.00	1.91

ANGLE TYPE—161A SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-161A-*	2	$0.48	$0.39	$0.33	$0.28	$0.25
3-161A-*	3	.59	.48	.40	.33	.32
4-161A-*	4	.79	.63	.53	.40	.39
5-161A-*	5	.93	.76	.64	.51	.48
6-161A-*	6	1.13	.90	.77	.59	.58
7-161A-*	7	1.24	1.01	.84	.65	.64
8-161A-*	8	1.52	1.20	1.03	.83	.79
9-161A-*	9	1.68	1.38	1.14	.90	.85
10-161A-*	10	1.81	1.45	1.20	.97	.93
11-161A-*	11	2.03	1.61	1.38	1.07	1.05
12-161A-*	12	2.12	1.68	1.42	1.14	1.07
13-161A-*	13	2.33	1.86	1.57	1.24	1.18
14-161A-*	14	2.52	2.03	1.72	1.38	1.29
15-161A-*	15	2.71	2.16	1.79	1.43	1.38
16-161A-*	16	2.85	2.27	1.93	1.53	1.45
17-161A-*	17	3.02	2.42	2.03	1.61	1.53
18-161A-*	18	3.25	2.59	2.16	1.74	1.64
19-161A-*	19	3.45	2.77	2.30	1.85	1.74
20-161A-*	20	3.57	2.85	2.66	1.91	1.80

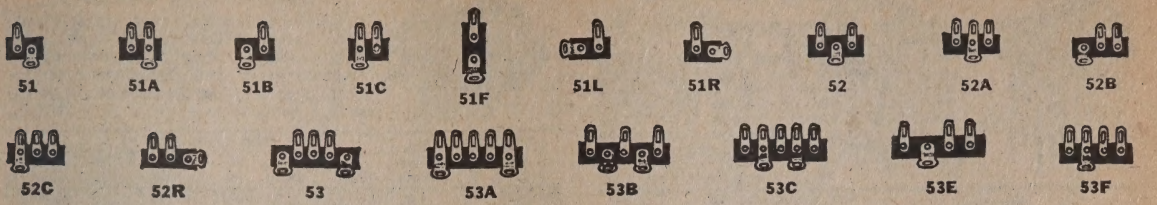
ANGLE TYPE—162A SERIES

2-162A-*	2	$0.57	$0.47	$0.37	$0.32	$0.30
3-162A-*	3	.68	.57	.54	.37	.36
4-162A-*	4	.90	.72	.59	.48	.47
5-162A-*	5	1.03	.83	.68	.57	.54
6-162A-*	6	1.19	.94	.81	.65	.61
7-162A-*	7	1.34	1.06	.90	.72	.66
8-162A-*	8	1.65	1.41	1.13	.90	.84
9-162A-*	9	1.78	1.42	1.19	.94	.92
10-162A-*	10	1.94	1.57	1.29	1.05	1.01
11-162A-*	11	2.12	1.68	1.42	1.14	1.07
12-162A-*	12	2.33	1.86	1.57	1.24	1.18
13-162A-*	13	2.47	1.98	1.65	1.37	1.25
14-162A-*	14	2.60	2.06	1.74	1.40	1.37
15-162A-*	15	2.77	2.24	1.86	1.46	1.41
16-162A-*	16	2.99	2.39	2.00	1.60	1.52
17-162A-*	17	3.14	2.52	2.12	1.68	1.60

*Add suffix **L** for cable clamp hole on left side (e.g., 17-160-**L**); add suffix **R** for cable clamp hole on right side (e.g., 17-160-**R**).

CINCH TERMINAL STRIPS, CLAMPS, SOCKETS

LUG-TYPE TERMINAL STRIPS



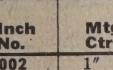
These terminal strips are handy for neatly supporting resistors, capacitors, etc. in circuit wiring. Cadmium-plated steel lugs are spaced on ¾″ centers with 0.140″ dia. mounting holes. Chocolate-colored phenolic is used. Strips are 1/16″ thick and ⅜″ wide.

Cinch No.	Mtg. Ctrs.	Net Ea., Lots of 1-24	Net Ea., Lots of 25-49*	Cinch No.	Mtg. Ctrs.	Net Ea., Lots of 1-24	Net Ea., Lots of 25-49*
51	.....	$0.129	$0.109	53C	¾″	$0.157	$0.135
51A	.....	.129	.109	53E	.....	.137	.117
51B	.....	.130	.110	53F	.....	.139	.119
51C	.....	.129	.109	54	1⅛″	.177	.152
51F	.....	.154	.132	54A	1⅛″	.180	.155
51L	.....	.154	.132	54B	.....	.154	.132
51R	.....	.154	.132	54C	.....	.157	.135
52	.....	.146	.123	55	2¼″	.183	.158
52A	.....	.151	.128	55A	2¼″	.185	.160
52B	.....	.146	.123	55B	1½″	.183	.158
52C	.....	.151	.128	55C	1½″	.185	.160
52R	.....	.154	.132	56	2⅝″	.189	.164
53	1½″	.154	.132	56A	2⅝″	.191	.166
53A	1½″	.157	.135	56B	1⅛″	.189	.164
53B	¾″	.154	.132	56C	1⅛″	.191	.166

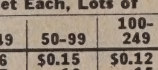
170 SERIES SOLDER TERMINAL STRIPS

Heavy solder terminals are made of .032″ brass, hot solder coated; mounted on ⅜″ centers. Black molded phenolic. Size, 5/16″ w. x 1/4″ thick. Mounting holes, ⅜″ from center of end terminals.

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
1-170	1	$0.33	$0.29	$0.23	$0.20	$0.19	$0.19
2-170	2	.39	.33	.30	.26	.24	.23
3-170	3	.54	.42	.35	.31	.30	.29
4-170	4	.62	.51	.39	.33	.32	.31
5-170	5	.69	.57	.48	.36	.35	.34
6-170	6	.78	.61	.53	.41	.38	.35
7-170	7	.88	.69	.59	.48	.44	.43
8-170	8	.90	.73	.61	.52	.49	.44
9-170	9	1.05	.86	.69	.57	.56	.51
10-170	10	1.15	.90	.76	.62	.59	.57



2000 Series



Screw Strips

SERIES 2000 TERMINAL STRIPS

Compact, sturdy terminal strips for wiring, etc. Phenolic insulation; cadmium-plated steel brackets with .140″ dia. mounting holes centered 5/32″ from bracket end. Terminals are tin-plated .019″ brass spaced on 5/16″ centers; last 2 digits of no. indicate no. of terminals (e.g., 2008 has 8 terminals).

Cinch No.	Mtg. Ctrs.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2002	1″	$0.17	$0.16	$0.15	$0.12	$0.11
2003	1 5/16″	.19	.17	.16	.15	.12
2004	1⅝″	.20	.19	.17	.16	.15
2005	1 15/16″	.20	.19	.17	.16	.15
2006	2¼″	.22	.20	.18	.17	.16
2007	2 9/16″	.22	.20	.18	.17	.16
2008	2⅞″	.26	.21	.19	.18	.17
2009	3 3/16″	.29	.22	.20	.19	.18
2010	3½″	.29	.22	.20	.19	.18
2011	3 13/16″	.31	.24	.22	.20	.19
2012	4⅛″	.31	.24	.22	.20	.19
2013	4 7/16″	.34	.30	.24	.21	.20

SCREW TYPE TERMINAL STRIPS

Ideal design for chassis or breadboard layouts. Strips with 1 to 6 lugs are 1/16″ thick phenolic; those with 7 to 10 terminals are 3/32″ thick. Ends of screws are captivated to prevent removal; made of cadmium-plated steel. Terminals are cadmium-plated brass, spaced on 7/16″ centers. Mounting holes .136″ dia.

Cinch No.*	Mtg. Ctrs.	Net Ea., Lots 1-24	Net Ea., Lots 25-49*	Cinch No.*	Mtg. Ctrs.	Net Ea., Lots 1-24	Net Ea., Lots 25-49*
17-1	⅛″	$0.155	$0.136	17-6	3 1/16″	$0.338	$0.320
17-2	1 1/16″	.172	.155	17-7	3 3/32″	.473	.371
17-3	1¾″	.205	.172	17-8	3 15/16″	.52	.43
17-4	2 1/16″	.273	.222	17-9	4⅜″	.65	.49
17-5	2⅝″	.320	.248	17-10	4 15/16″	.77	.58

*Suffix indicates no. of terminals; e.g., 17-2 has 2 terminals.

★LARGER QUANTITY PRICES ON REQUEST.

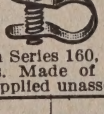
TO-5 OR TO-18 LOW PROFILE TRANSISTOR SOCKETS

Mount directly to PC board with snug fit to prevent bleeding of solder and flux to opposite board surface. Chamfered socket holes minimize lead bending during insertion. Contact ends are watertight, formed so that solder and fluxes cannot enter barrelled contact to obstruct lead entry. TO-18 directly accepts TO-5. TO-5 accepts TO-18 if leads are left full length or formed to match TO-5 lead centers. Insulator molded from 20% glass filled nylon in black, natural, or green. Contacts are of beryllium copper with etched tin, bright finish. Maximum pin dia., 0.019″. Max. pin depth, 0.200″ ±0.010″. Max. insertion force, 5 ounces; withdrawal force, ¼ ounce at 3 and 100 cycles. Voltage ratings at sea level, 1500 AC rms, 2000 VDC. Current rating, 2.5 amperes. Contact resistance, 0.005 ohms. Insulation resistance, 100,000 megs. Low profile, only .130″ above PC board surface.

Cinch No.	Color	•Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
3-LPS-B	Black	$0.249	$0.200	$0.167	$0.134	$0.127	$0.121
3-LPS-N	Natural	.249	.200	.167	.134	.127	.121
3-LPS-G	Green	.249	.200	.167	.134	.127	.121

• DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR SOCKETS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

CABLE CLAMPS FOR FANNING STRIPS



CC-161 Series

Designed for use with Series 160, 161 and 162 fanning strips and supplied in six sizes. Made of nickel-plated brass with 6-32 round-head screw. Supplied unassembled.

C-J Number	I.D.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
CC-161-4	¼″	$0.45	$0.36	$0.29	$0.27	$0.26
CC-161-6	⅜″	.54	.45	.38	.29	.27
CC-161-8	½″	.67	.52	.45	.38	.36
CC-161-10	⅝″	.73	.59	.52	.43	.42
CC-161-12	¾″	.84	.68	.58	.45	.44
CC-161-14	⅞″	.89	.73	.62	.51	.47

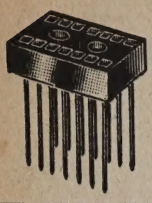
QUICK-CLAMP® TERMINALS

Simplifies engaging of wires to barrier blocks. Set includes two mating clamps and one screw. Part No. QC-1 for use with Barrier Block Series 141, 541; accommodates wire gauge 14 thru 22. Part No. QC-2 for use with Barrier Block Series 142, 542; accommodates wire gauge 8 thru 16. Standard package, quantity 200.

Cinch No.	Screw Size	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
QC-1	6-32 x 5/16″	$0.22	$0.17	$0.16	$0.15	$0.14
QC-2	8-32 x ⅜″	.22	.17	.16	.15	.14

CINCH SOCKETS FOR INTEGRATED CIRCUITS, PRINTED CIRCUITS, TRANSISTORS

LOW PROFILE WIRE WRAP●



DIP SOCKETS

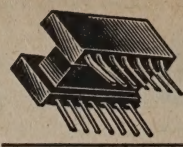
Provides higher board packing density. Accept standard 14 or 16 contacts size IC packages with flat or rolled leads. Contact resistance, 0.006 ohm max. Contacts of solid .025″ phosphor bronze. Wire Wrap, .670″ lg., enough for 3 wraps. Glass nylon insulation withstands temp. from −65° C to +125° C.

●Reg. Gardner-Denver TM.

Cinch No.	No. of Contacts	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
14-W-DIP*	14‡	$0.96	$0.78	$0.65	$0.52	$0.50	$0.48
14-W-DIP-1†	14‡	.96	.78	.65	.52	.50	.48
14-W-DIP-2*	14§	1.25	.99	.83	.66	.63	.61
14-W-DIP-3†	14§	1.25	.99	.83	.66	.63	.61
16-W-DIP*	16‡	1.18	.94	.79	.63	.59	.56
16-W-DIP-1†	16‡	1.18	.94	.79	.63	.59	.56
16-W-DIP-2*	16§	1.45	1.18	.98	.79	.75	.70
16-W-DIP-3†	16§	1.45	1.18	.98	.79	.75	.70

Insulator: *Black glass nylon; †white glass nylon. Contacts: ‡Electro-tin-plated; §gold plated.

DUAL-INLINE SOCKETS

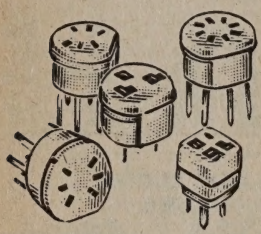


Accepts standard 14, 16 or 24 dual-inline pkg., flat or round leads. Used with PC boards designed for direct insertion of DIP. Insulator of GP black phenolic with electro-tin beryllium copper plated contacts, withstands temp. from −65° C to +150° C.

Cinch No.	No. Contacts	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
14-DIP	14	$0.967	$0.774	$0.645	$0.517	$0.491	$0.465
14-N-DIP†	14	.967	.774	.645	.517	.491	.465
14-DIP-1*	14	1.28	1.007	.841	.671	.640	.607
14-N-DIP-1*†	14	1.28	1.007	.841	.671	.640	.....
16-DIP	16	1.073	.858	.716	.573	.544	.516
16-N-DIP†	16	1.073	.858	.716	.573	.544	.516
16-DIP-1*	16	1.385	1.107	.924	.738	.702	.665
16-N-DIP-1*†	16	1.385	1.107	.924	.738	.702	.665
24-DIP	24	1.605	1.292	1.082	.873	.832	.81
24-N-DIP†	24	1.605	1.292	1.082	.873	.832	.81
24-DIP-1*	24	1.897	1.519	1.278	1.030	.979	.929
24-N-DIP-1*†	24	1.897	1.519	1.278	1.030	.979	.929

*Insulator of diallyl phthalate with gold plated contacts. †With narrow (square) leads to fit small-hole PC boards.

TO-5 AND TO-18 CASE SOCKETS

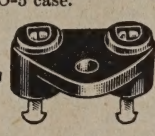


Rated at 1.0 amperes and 750 VAC (1020 VAC for SDG material). Insulation resistance is 1000 megohms minimum (50,000 megohms for SDG). Contact resistance, 0.05 ohms maximum. All units have dip solder terminations for PC board insertion. Contact material is phosphor bronze; (suffix MSS); beryllium copper, copper flash plus gold plate (suffix ICS). TO-18 case, 3-MSS-2, 4-MSS-2; all others TO-5 case.

Cinch No.	Ins. Mat.	Contacts	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
3-MSS	MFE	3	$0.238	$0.191	$0.159	$0.128	$0.121	$0.116
4-MSS	MFE	4	.491	.393	.327	.262	.249	.237
6-MSS	MFE	6	.676	.541	.451	.361	.344	.325
6-MSS-1	FEP	6	1.41	1.128	.941	.753	.716	.678
8-MSS	MFE	8	.811	.649	.541	.433	.412	.391
6-ICS	SDG	6	.69	.56	.48	.41	.37	.....
8-ICS	SDG	8	.83	.67	.57	.46	.45	.....
10-ICS	SDG	10	.93	.73	.62	.51	.48	.....
3-MSS-2	MFE	3	.339	.272	.226	.181	.172	.164
4-MSS-2	MFE	4	.466	.373	.311	.249	.237	.224

A

B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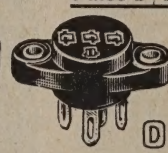
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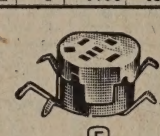

E

Contact Layout

Chassis Layout

POWER TRANSISTOR SOCKETS

LAMINATED TYPE

Cinch No. 2TS-1 (Fig. A)—Top and bottom plates are natural XP phenolic, vacuum wax impregnated. Contacts are of brass, cadmium plated. Formed thread for 6-20 screw. Has .104/.110″ dia. hole in CR steel plate. Provides easy attachment to a heat sink. Net Each, Lots of 1-24.....**$0.153**; 25-49.....**$0.128**
Lots of 50-99..**$0.117**; 100-249..**$0.102**; 250-499.. **.092**

Cinch No. 2TS-2 (Fig. B)—Identical with above except equipped with integral eyelets for easy assembly to chassis.
Net Each, Lots of 1-24.....**$0.153**; 25-49.....**$0.128**
Lots of 50-99..**$0.117**; 100-249..**$0.102**; 250-499.. **.092**

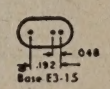
MODEL 2TS-3 MOLDED TYPE (FIG. C)

Molded power transistor socket. Casting is molded of general purpose phenolic. Contacts are phosphor bronze, cadmium plated. Mounting holes are .098″ dia.; mounting centers are .425/.435″.
Net Each, Lots of 1-24.....**$0.153**; 25-49.....**$0.128**
Lots of 50-99..**$0.117**; 100-249..**$0.102**; 250-499.. **.092**

MODEL 2TS-4 GENERAL PURPOSE (FIG. D)

This new transistor socket was originally designed for an all-transistor television set; however, its future applications are many. This socket may be used in industrial communications, test equipment, ham gear, etc. Socket has a triangular base layout with 0.2″ by 0.1″ (JEDEC-30) contact centers, as well as three contacts inline (.048″ by .192″ contact centers). Casting is molded of general purpose phenolic; contacts are phosphor bronze, cadmium plated. May be used with the following EIA base designations: E3-14, E3-15, E3-25, E3-32, E3-38, E3-39, E3-42, E3-43, E3-44, E3-51, E3-53, E4-13, E4-24, E4-31, E4-43, E4-52, ET-103-D.
Cinch No. 2TS-4—Net, Lots of 1-24..**$0.204**; 25-49..**$0.167**
Lots of 50-99..**$0.140**; 100-249..**$0.128**; 250-499.. **.117**

TYPE 1



Base E3-15

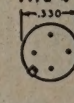
Base E3-25

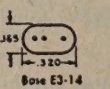
TYPE 2

Base E4-13

Base E4-31

TYPE 4



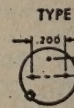


Base E3-14

Base E3-32

Base E4-24

TYPE 3



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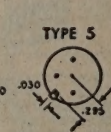


UNIVERSAL TRANSISTOR SOCKETS (FIG. E)

Universal transistor socket that can be used with all transistor bases shown in illustration above. Casting is of mica-filled phenolic (MFE). Contacts are beryllium copper and are gold plated. Contacts may be used with one or two-sided 1/16″ PC boards.

Cinch No.	Base Types	Tabs Used (See Diag.)	Cont. Pos. Used	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
7UTS	All	A-E	1, 3, 4, 7	$1.21	$0.97	$0.81	$0.65	$0.62
7UTS-1	1, 3	C, D, E	1, 3, 4, 7	.69	.56	.48	.41	.37
7UTS-3	3	C, D, E	1, 4, 7	.64	.52	.45	.33	.32
7UTS-4	4	A-E	1, 4, 5, 6, 7	.95	.76	.64	.52	.49
7UTS-5	5	B, D, E	1, 6, 7	.64	.52	.45	.33	.32
7UTS-6	1, 3	C, D, E	1, 3, 4, 7	.69	.56	.48	.41	.37

MOLDED CONNECTOR PLUGS AND SOCKETS

A

B

C

D

MODEL 8PB 8 CONTACT PLUG (FIG. A)

Molded from high dielectric black phenolic. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on 1/16″ chassis using No. 8RO retaining ring, or can be used with No. 16F cap. Will fit any standard octal socket.
Cinch No. 8PB—Net Ea., Lots of 1-24..**$0.36**; 25-49..**$0.30**
Lots of 50-99..**$0.26**; 100-249..**$0.22**; 250-499.. **.21**

★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR SOCKETS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK WITH US FOR THE LATEST QUOTATIONS.

MODEL 11PB 11 CONTACT PLUG (FIG. B)

Molded from high dielectric black phenolic. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on 1/16″ chassis using No. 8RO retaining ring. Can be used with No. 16F cap. Will fit No. 11RB socket.
Cinch No. 11PB—Net Ea., Lots of 1-24..**$0.47**; 25-49..**$0.33**
Lots of 50-99..**$0.30**; 100-249..**$0.26**; 250-499.. **.24**

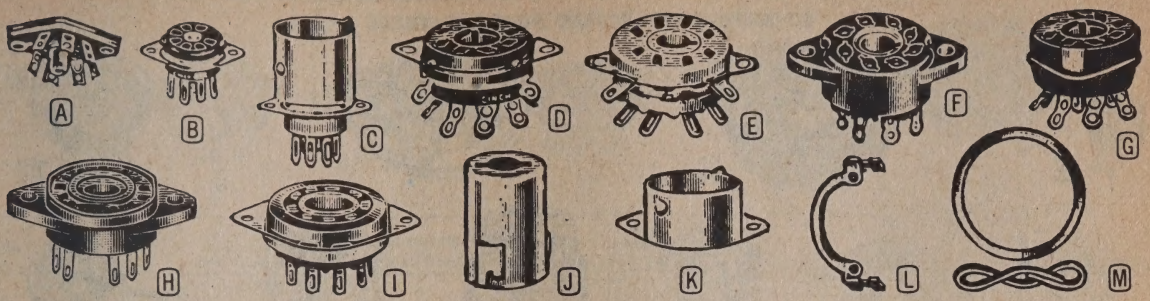
MODEL 11RB 11 CONTACT SOCKET (FIG. C)

Molded from high dielectric black phenolic. Solder coated brass contacts. Mounts on 1/16″ chassis using No. 8RO retaining ring. Can be used with No. 16F cap. Mates with No. 11PB plug.
Cinch No. 11RB—Net Ea., Lots of 1-24..**$0.45**; 25-49..**$0.36**
Lots of 50-99..**$0.30**; 100-249..**$0.25**; 250-499.. **.24**

MODEL 16F PLUG CAP (FIG. D)

Cadmium plated steel plug cap for snapping on 8 or 11 prong sockets grooved for 1/16″ chassis. Screwdriver slot at bottom to facilitate removal. Rubber grommet has 15/64″ dia. hole.
Cinch No. 16F—Net Ea., Lots of 1-24..**$1.27**; 25-49..**$1.08**
Lots of 50-99...**$0.85**; 100-249...**$0.69**; 250-499.. **.63**

CINCH TUBE SOCKETS AND ACCESSORIES



SOCKETS FOR 7-, 8-, 9- AND 12-PIN TUBES

Cinch No.	Fig.	No. of Contacts and Tube Group	Description	Construction Materials: Insulator*	Construction Materials: Contacts†	Top or Bottom Mount	Mtg. Ctrs.	MIL-S-12883A No.	Net Each. Lots of: 1-24	25-49	50-99	100-249	250-499
7W2A	A	7 miniature	Wafer	A	A	Bottom	7/8"	.....	$0.226	$0.194	$0.180	$0.165	$0.150
7WL2	A	7 miniature	Wafer	A	A	Bottom	1"	.....	.194	.180	.165	.150	.135
7WL4	A	7 miniature	Wafer	A	A	Both	1 5/16"	.....	.344	.256	.209	.194	.180
7EB	B	7 miniature	Saddle	B	A	Bottom	7/8"	.....	.190	.158	.143	.127	.113
7EC	B	7 miniature	Saddle	D	A	Bottom	7/8"	.....	.713	.586	.501	.371	.358
7EM	B	7 miniature	Saddle	C	A	Bottom	7/8"	.....	.222	.176	.158	.143	.127
7AB1	B	7 miniature	Saddle	B	A	Top	7/8"	.....	.222	.176	.158	.143	.127
7AM1	B	7 miniature	Saddle	C	A	Top	7/8"	.....	.270	.206	.176	.158	.143
7JM-3	B	7 miniature	Saddle	C	B	Bottom	7/8"	TS102P03	.358	.301	.238	.206	.190
7JC-3	B	7 miniature	Saddle	D	B	Bottom	7/8"	TS102C03	.586	.487	.385	.314	.301
7JMN-1	B	7 miniature	Saddle	C	B	Top	7/8"	TS102P02	.358	.301	.238	.206	.190
7JMN-2	B	7 miniature	Saddle	C	B	Top	7/8"	TS102P02	.358	.301	.238	.206	.190
7JCN-1	B	7 miniature	Saddle	D	B	Top	7/8"	TS102C02	.586	.487	.385	.314	.301
7JCN-2	B	7 miniature	Saddle	D	B	Top	7/8"	TS102C02	.586	.487	.385	.314	.301
7JM-2	C	7 miniature	Shield base	C	B	Top	7/8"	TS102P01	.457	.344	.301	.245	.229
7XB1	C	7 miniature	Shield base	B	A	Top	7/8"	.....	.286	.216	.186	.172	.158
7XM1	C	7 miniature	Shield base	C	A	Top	7/8"	.....	.329	.272	.229	.201	.186
7XC	C	7 miniature	Shield base	D	A	Top	7/8"	.....	.70	.58	.49	.37	.36
7JC-2	C	7 miniature	Shield base	D	B	Top	7/8"	TS102C01	.613	.501	.399	.329	.314
8AB	D	8 octal	Saddle	F	A	Bottom	1 5/16"	.....	.217	.172	.156	.141	.125
8AM	D	8 octal	Saddle	C	A	Bottom	1 5/16"	.....	.28	.21	.20	.19	.18
8EB	E	8 octal	Saddle	E	A	Bottom	1 1/2"	.....	.217	.172	.156	.141	.125
8EM	E	8 octal	Saddle	C	A	Bottom	1 1/2"	.....	.28	.21	.20	.19	.18
8XM	F	8 octal	All-molded	C	A	Both	1 5/16"	.....	.217	.172	.156	.141	.125
8XB	F	8 octal	All-molded	B	A	Both	1 5/16"	.....	.186	.156	.141	.125	.109
8R1	G	8 octal	Ring mount‡	E	A	Top	1/16"#	.....	.33	.28	.24	.21	.20
8R2	G	8 octal	Ring mount‡	E	A	Top	1/8"#	.....	.54	.44	.36	.31	.30
8R3	G	8 octal	Ring mount‡	C	A	Top	1/16"#	.....	.39	.33	.30	.24	.22
8R4	G	8 octal	Ring mount‡	E	A	Top	3/32"#	.....	.54	.44	.36	.31	.30
8R5	G	8 octal	Ring mount‡	C	A	Top	3/32"#	.....	.73	.60	.51	.39	.37
8R6	G	8 octal	Ring mount‡	C	A	Top	1/8"#	.....	.73	.60	.51	.39	.37
8CS-B	H	8 compactron	All-molded	E	A	Both	1 5/16"	.....	.63	.50	.43	.33	.32
8CS-M	H	8 compactron	All-molded	C	A	Both	1 5/16"	.....	.66	.56	.47	.38	.34
9NS-B	I	9 novar	Saddle	E	A	Bottom	1 1/2"	.....	.23	.19	.17	.16	.15
9NS-M	I	9 novar	Saddle	C	A	Bottom	1 1/2"	.....	.26	.21	.19	.17	.16
9W1	A	9 noval	Wafer	A	A	Bottom	1 1/8"	.....	.29	.22	.21	.20	.19
9W2	A	9 noval	Wafer	A	A	Both	1 3/16"	.....	.29	.22	.21	.20	.19
9AB	B	9 noval	Saddle	B	A	Top	1 1/8"	.....	.217	.172	.156	.141	.125
9AM	B	9 noval	Saddle	C	A	Top	1 1/8"	.....	.28	.21	.20	.19	.18
9EB	B	9 noval	Saddle	B	A	Bottom	1 1/8"	.....	.217	.172	.156	.141	.125
9EM	B	9 noval	Saddle	C	A	Bottom	1 1/8"	.....	.28	.21	.20	.19	.18
9JM-3	B	9 noval	Saddle	C	B	Bottom	1 1/8"	TS103P03	.47	.35	.31	.25	.24
9JM-4	B	9 noval	Saddle	C	B	Bottom	1 1/8"	TS103P03	.47	.35	.31	.25	.24
9JC-3	B	9 noval	Saddle	D	B	Bottom	1 1/8"	TS103C03	.68	.57	.49	.36	.35
9JCN-1	B	9 noval	Saddle	D	B	Top	1 1/8"	TS103C02	.68	.57	.49	.36	.35
9JMN-1	B	9 noval	Saddle	C	B	Top	1 1/8"	TS103P02	.47	.35	.31	.25	.24
9JMN-2	B	9 noval	Saddle	C	B	Top	1 1/8"	TS103P02	.47	.35	.31	.25	.24
9XB	C	9 noval	Shield base	B	A	Top	1 1/8"	.....	.33	.28	.24	.21	.20
9XM	C	9 noval	Shield base	C	A	Top	1 1/8"	.....	.36	.31	.25	.22	.21
9XC	C	9 noval	Shield base	D	A	Top	1 1/8"	.....	.57	.44	.36	.31	.30
9JM-2	C	9 noval	Shield base	C	B	Top	1 1/8"	TS103P01	.49	.37	.32	.28	.25
9JC-2	C	9 noval	Shield base	D	B	Top	1 1/8"	TS103C01	.65	.53	.44	.35	.33
12CS-B	H	12 compactron	All-molded	E	A	Both	1 5/16"	.....	.23	.20	.17	.16	.15
12CS-M	H	12 compactron	All-molded	C	A	Both	1 5/16"	.....	.85	.67	.57	.46	.45

*Insulator material: A indicates chocolate phenolic; B, black phenolic; C, MFE plastic; D, ceramic; E, high-dielectric black phenolic (CFG); F, MAI-60 Alkyd Glass Fiber (JETEC No. 20-120). †Contact material: A indicates cadmium-plated brass; B, silver-plated phosphor bronze; C, silver-plated beryllium copper. ‡Crimped retainer ring furnished. #Max. chassis thickness.

J-SLOT TUBE SHIELDS (FIG. J)

Cinch No.	Construction Materials	Lgth.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
7S2	Steel	1 3/8"	$0.36	$0.26	$0.22	$0.21	$0.20
7S3	Steel	1 3/4"	.38	.29	.24	.22	.21
7S4	Steel	2 1/4"	.51	.41	.37	.29	.26
7SJ2-1	MIL*, brass	1 3/8"	.51	.41	.37	.29	.26
7SJ3-1	MIL*, brass	1 3/4"	.59	.42	.38	.32	.29
7SJ4-1	MIL*, brass	2 1/4"	.64	.51	.42	.37	.36
9S1	Steel	1 1/2"	.70	.55	.48	.38	.37
9S2	Steel	1 15/16"	.48	.38	.32	.26	.24
9S3	Steel	2 3/8"	.87	.70	.61	.48	.42
9SJ1-1	MIL*, brass	1 1/2"	.61	.49	.39	.36	.32
9SJ2-1	MIL*, brass	1 15/16"	.70	.55	.48	.38	.37
9SJ3-1	MIL*, brass	2 3/8"	.75	.61	.51	.39	.38

MODEL 8RO RETAINER RING (FIG. M)

A crimped retaining ring formed of .020" spring steel. Will securely anchor sockets. Standard finish is cadmium.
Cinch No. 8RO—Net Each, Lots of: 1-24. **$0.20**; 25-49. **$0.19**
Lots: 50-99... **$0.17**; 100-249... **$0.14**; 250-499... **.13**

SHIELD BASES (FIG. K)

Material: 7SB2, brass; others, steel.

Cinch No.	Dimensions, In. H.	Mtg. Hole	Mtg. Ctrs.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
7SB1	5/8	.125 dia.	7/8	$0.226	$0.194	$0.180	$0.165	$0.150
7SB2	5/8	.125 dia.	7/8	.344	.256	.209	.194	.180
9SB1	....	1/8 dia.	1 1/8	.29	.22	.21	.20	.19

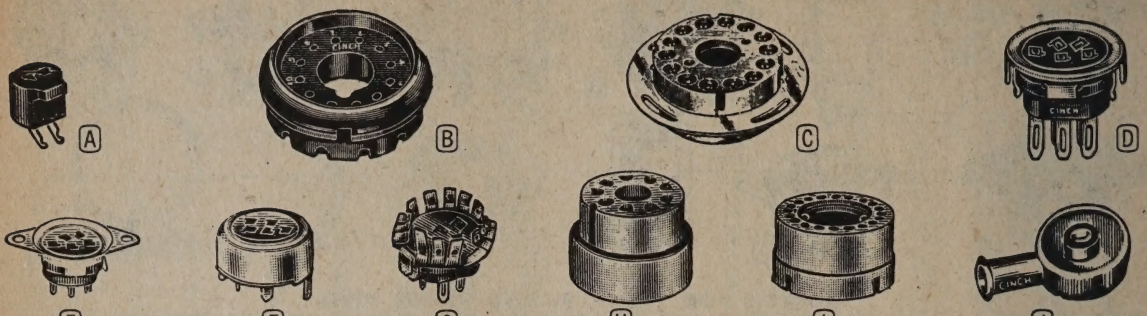
STRAP NUTS (FIG. L)

Cinch No. 7SN—Cadmium-plated brass strap nuts for use in mounting sockets with saddles or shield bases. One strap nut takes the place of two conventional type nuts. Mounting centers, 7/8". For 7-contact sockets. Ground lugs are hot-solder-dipped.
Net Ea., Lots of: 1-24. **$0.61**; 25-49. **$0.46**; 50-99... **$0.39**
Lots: 100-249.. **$0.32**; 250-499.. **$0.29**; 500-999... **.226**

Cinch No. 9SN—Same as Model 7SN except mounting centers are 1 1/8" and are for 9-contact sockets.
Net Each, Lots of: 1-24. **$0.61**; 25-49. **$0.49**; 50-99. **$0.39**
Lots: 100-249.. **$0.36**; 250-499.. **$0.33**; 500-999.. **.26**

CINCH TUBE SOCKETS AND ACCESSORIES

SOCKETS FOR SPECIAL PURPOSE TUBES



Cinch No.	Fig.	Number of Contacts and Tube Group	Type	Material: Insulator*	Material: Contacts†	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
2B2♯	A	2 cetron	For CE701, CE702	A	A	$1.09	$0.86	$0.74	$0.58	$0.56
3B12	B	12 duodecal	For 10BP4, etc.	A	C	1.15	.92	.80	.61	.60
3B14♯	C	14 diheptal	CRT	A	C	2.96	2.38	1.98	1.60	1.50
3M12	B	12 duodecal	For 10BP4, etc.	B	C	3.41	2.72	2.26	1.82	1.73
3M14♯	C	14 diheptal	CRT	B	C	3.13	2.48	2.09	1.67	1.60
5NS	D	5 nuvistor	Crimp tab mount	B	A	.231	.179	.153	.140	.128
5NS-1	E	5 nuvistor	Saddle	B	A	.356	.268	.231	.192	.179
5NS-2	F	5 nuvistor	PC standoff	B	A	.571	.456	.381	.306	.279
5NS-3	G	5 nuvistor	Heat dissipating	B	C	.317	.254	.216	.179	.167
7-VT	H	7 vidicon	For RCA vidicon	B	B	3.24	2.58	2.16	1.73	1.66
8-VT	H	8 vidicon	For RCA vidicon	B	B	3.46	2.75	2.32	1.86	1.76
20-PM	I	20 photomulti	For RCA 6810, etc.	C	A	7.70	7.46	6.22	5.00	4.75

*Insulator material: A indicates black phenolic; B, MFE plastic; C, MAI-60 alkyd glass fiber. †Contact material: A indicates cadmium plated brass; B, silver plated phosphor bronze; C, silver plated beryllium copper. ‡Larger qty. prices on request. ♯Mtg. ring required

MODEL 3A1 SECOND ANODE CONNECTOR (FIG. J)

Snap over .096" dia. prong on side of diheptal tubes. Cadmium-plated brass contact surrounded by rubber insulator. Size, ¾" w. x 1¾6" lg.
Cinch No. 3A1—Net Ea., Lots of: 1–24..**$1.76**; 25–49..**$1.42**
Lots: 50–99...**$1.20**; 100–249...**$0.96**; 250–499... **.92**

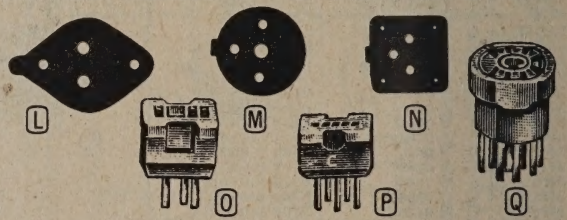
MOUNTING RINGS

Cinch No. 2MR—Mounting ring for No. 2B2.
Net Each, Lots of: 1–24.....**$0.142**; 25–49.....**$0.121**
Lots: 50–99.**$0.102**; 100–249.**$0.081**; 250–499.. **.062**
Cinch No. 3R11—Steel mounting ring for No. 3M111.
Net Each, Lots of: 1–24.**$1.23**; 25–49.**$0.96**; 50–99..**$0.81**
Lots: 100–249..**$0.65**; 250–499..**$0.63**; 500–999.. **.51**
Cinch No. 3R14—Steel mounting ring for Nos. 3B14 and 3M14.
Net Each, Lots of: 1–24.**$1.37**; 25–49.**$1.08**; 50–99.**$0.92**
Lots: 100–249..**$0.73**; 250–499..**$0.71**; 500–999.. **.63**

POWER TRANSISTOR HEAT SINKS

Hard anodized aluminum insulator wafers for use with power transistors. Feature high thermal conductivity, high dielectric resistance, high abrasion resistance and high corrosion resistance.

Cinch No.	Fig.	For Transistor	Net Each, Lots of: 1-249	250-499
2W-1	L	Motorola 2N179, 2N176, 2N554	$0.95	$0.63
2W-2	M	Delco 2N174	.88	.55
2W-3	N	Texas Instruments 2N389	1.59	1.12

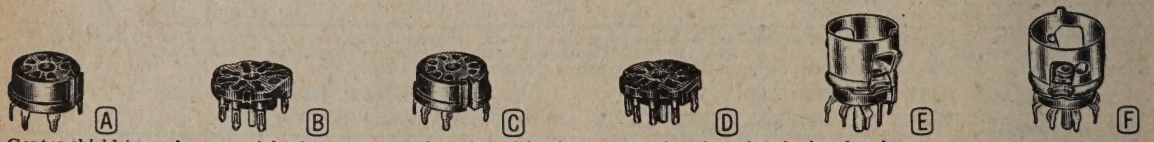


SUBMINIATURE TUBE SOCKETS

Use extensively for hearing aids, radios and other electronic apparatus. Molded from mica-filled low loss phenolic with silver-plated beryllium copper contacts. No. 2H5 can be used for four prong tube or as a transistor socket.

Cinch No.	Pin	Fig.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
2H3	3	O	$0.41	$0.36	$0.31	$0.25	$0.24
2H5	5	P	.36	.30	.24	.22	.21
2H6	6	....	1.67	1.31	1.13	.90	.87
2H7	7	....	.63	.52	.41	.35	.33
8SM	8	Q	.92	.76	.63	.52	.51

PRINTED CIRCUIT TUBE SOCKETS



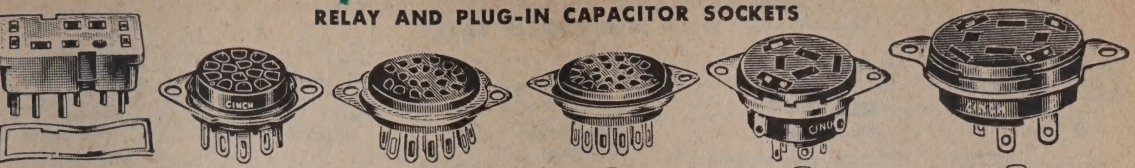
Center-shield types have special tabs to prevent the tube shields from contacting the printed wire chassis.

Cinch No.	Fig.	No. of Contacts and Tube Group	Description	Material: Insulator*	Material: Contacts†	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
7PC-B	A	7 miniature	Center shield and tabs	A	A	$0.186	$0.158	$0.143	$0.129	$0.116
7PC-B1	A	7 miniature	No shield or tabs	A	A	.158	.143	.129	.116	.102
7PC-B4	B	7 miniature	Snap in; no shield or tabs	A	A	.186	.158	.143	.129	.116
7PC-M4	B	7 miniature	Snap in; no shield or tabs	B	A	.186	.158	.143	.129	.116
7PC-B5	B	7 miniature	Snap in; center shield	A	A	.186	.158	.143	.129	.116
7PC-M5	B	7 miniature	Snap in; center shield	B	A	.186	.158	.143	.129	.116
7PC-M2	E	7 miniature	Shield base, center shield and tabs	B	B	1.50	1.19	1.01	.81	.79
9PC-B	C	9 noval	Center shield and tabs	A	A	.217	.172	.156	.141	.125
9PC-B1	C	9 noval	No shield or tabs	A	A	.217	.172	.156	.141	.125
9PC-B4	D	9 noval	Snap in; no shield or tabs	A	A	.22	.19	.18	.141	.128
9PC-M4	D	9 noval	Snap in; no shield or tabs	B	A	.22	.19	.18	.141	.128
9PC-B5	D	9 noval	Snap in; center shield	A	A	.22	.19	.18	.141	.128
9PC-M5	D	9 noval	Snap in; center shield	B	A	.22	.19	.18	.141	.128
9PC-M2	F	9 noval	Shield base, center shield and tabs	B	B	1.64	1.30	1.12	.88	.85

*Insulator material: A indicates black phenolic; B, mica-filled phenolic. †Contact material: A indicates hot solder-coated brass; B, hot tinned-phosphor bronze.

CINCH Plugs and Sockets

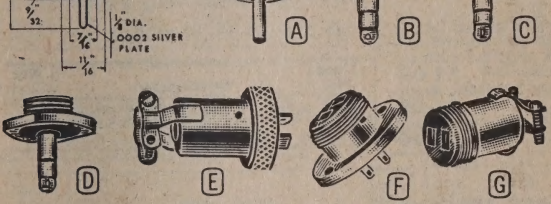
RELAY AND PLUG-IN CAPACITOR SOCKETS



Cinch No.	Relay or Cap.	Fig.	No. of Contacts and Shape	Materials: Insulator*	Materials: Contacts†	Socket Type	Top or Bottom Mount	Mtg. Ctrs. or Size	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
RS	Relay	A	8 rectangular	A	A	Clip mt.	Top	‡	$0.69	$0.56	$0.48	$0.41	$0.37
4RS	Relay	B	14 round	A	A	Saddle	Bottom	1⅛″	1.15	.94	.80	.61	.59
4RS-2	Relay	B	14 round	A	A	Saddle	Top	1⅛″	1.15	.94	.80	.61	.59
0RS	Relay	C	20 round	A	A	Saddle	Top	1⅝″	2.89	2.33	1.93	1.56	1.49
0RS-1	Relay	D	20 round	A	A	Saddle	Bottom	1⅝″	2.89	2.33	1.93	1.56	1.49
4RS-1	Relay	D	14 round§	A	A	Saddle	Bottom	1⅝″	1.93	1.56	1.30	1.05	1.01
6RS-1	Relay	D	16 round§	A	A	Saddle	Bottom	1⅝″	2.34	1.88	1.57	1.26	1.19
6RS-2	Relay	....	16 rectangular	B	B	Top mt.	Top	1⅛″ x 1⅛″	1.35	1.09	.90	.73	.70
6RS-3	Relay	....	16 rectangular	B	C•	Top mt.	Top	1⅛″ x 1⅛″	1.63	1.31	1.10	.87	.84
8RS	Relay	....	28 rectangular	B	B	Top mt.	Top	1⅛″ x 1.960″	.75	.59	.52	.40	.38
8RS-1	Relay	....	28 rectangular	B	C•	Top mt.	Top	1⅛″ x 1.960″	1.07	.86	.73	.58	.56
C5#	Cap.	E	3 center, 2 outer	B	B	Saddle	Bottom	1½″					
C7#	Cap.	F	4 center, 3 outer	B	B	Saddle	Bottom	1¹⁷⁄₃₂″					

*Insulator material: A indicates low mica-filled phenolic; B, high dielectric phenolic. †Contact material: A indicates silver-plated beryllium copper; B, cadmium plated; C, gold plated. ‡Fits following relays: Advance MV-2C, AEMCO 95-3274, Brubaker K110A, Filtors P.26.A1.P.6A, G.E. D300A and G-203A, P&B SL and Ace 50-6-A (single-contact type); C-J No. 20731 clip included. §Same as No. 20RS-1 with contacts removed. #No. 2C5 for 1″ and No. 2C7 for 1⅛″ Mallory and Magnavox Type FP capacitors; four ground lugs on saddle. **•Prices for sockets with gold plated terminals will vary. Check us for latest quotations.**

AUDIO PLUGS AND SOCKETS



SERIES 101 SOCKETS

Brass base, bright nickel finish. Brass contact is silver plated. Insulation is of low loss natural color XXX phenolic. Phenolic of No. S-101-D is recessed in the base. Two sides of base of No. S-101-D Mod are milled. Mounting Holes: No. S-101, #41 drill on 1⅛″ centers; all others, #30 drill on 1⅜₆″ centers.

Cinch Number	Fig.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499*
S-101	B	$1.10	$0.87	$0.75	$0.59	$0.56
S-101-D	C	1.67	1.32	1.12	.92	.86
S-101-Md	D	1.67	1.32	1.12	.92	.86

SERIES 101 PLUGS (FIG. A)

All plugs are identical except the cable ferrule which is furnished in two sizes listed below. All metal parts are of brass. Fit 101 Series sockets. Ideal for high frequency connections.

Cinch No.	A	B	C	D	E
P-101-¼″	1½″	⅜″	7⁄16″	¼″	9⁄32″
P-101-290	1¼″	⅜″	7⁄16″	.290″	.319″

QUANTITY PRICES FOR SERIES 101 PLUGS

Cinch Number	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499*
P-101-¼″	$1.16	$0.93	$0.77	$0.60	$0.59
P-101-290	1.41	1.14	.96	.76	.74

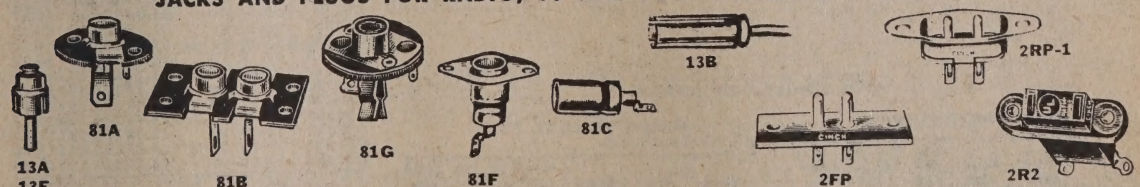
SERIES 202 PLUGS AND SOCKETS

Made in two contacts only. Brass metal parts with bright nickel finish. Molded phenolic insulation. Phosphor bronze "knife switch" type socket contacts engage both sides of flat brass plug contacts—double contact area. Formed fiber linings in caps. Polarized. Knurled nut has ¾″-27 thread. Socket mounting holes, #30 drill on 1″ centers. No. S-202-CCT-THR, when used with No. P-202-CCT, will make an ideal microphone connector.

Cinch Number	Fig.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499*
P-202-CCT	E	$1.46	$1.16	$0.99	$0.79	$0.74
S-202-CCT	E*	1.49	1.19	1.00	.80	.75
S-202-B	F	1.76	1.43	1.19	.96	.92
P-202-B	F†	1.86	1.52	1.29	1.02	.88
S-202-CCT-THR	G	1.96	1.59	1.31	1.03	1.01

*Socket instead of plug. †Plug instead of socket.
★LARGER QUANTITY PRICING AVAILABLE ON REQUEST

JACKS AND PLUGS FOR RADIO, TV AND PHONOGRAPH APPLICATIONS



RCA TYPE PHONO CONNECTORS

Cinch No. 13A Plug—9⁄16″ long pin. For Jack Types 81A, 81B and 81G.

Cinch No. 13E Plug—1⅛″ long pin. For Jack Types 81A, 81B and 81G.

Cinch No. 81A Jack—Single jack for No. 13A. Mtg. ctrs., 1⅛″.

Cinch No. 81B Jack—Double jack for No. 13A. Mtg. ctrs., 1⅛″. Jacks spaced on ¼″ ctrs. Size, 1½″ x 1″.

Cinch No. 81G Jack—Normally connected; this connection breaks when plug is inserted, making plug connection. Brass mtg. plate. Mtg. holes .136″.

ANTENNA CONNECTORS

Cinch No. 81F Jack—Motorola type. Shielded. Sturdy steel flange, 15⁄16″ mtg. ctrs. with .136″ dia. mtg. holes. Mounts with screws or rivets. Mates 13B plug.

Cinch No. 81C Jack—Same as 81F less flange. May be soldered in position. Mates with No. 13B.

MOTOROLA TYPE ANTENNA PLUG

Cinch No. 13B Plug—Has ⅛″ pin extending ½″ from shell whose eight cutting edges provide positive grounded connection when inserted in No. 81C or No. 81F.

MODEL 2FP CONNECTOR PLUG

Consists of two prongs mounted on a phenolic board. One piece contact. Mounting plate is of 1⁄16″ natural XP phenolic 1⅝″ lg. x ¾″ w. The .135/.140″ mounting holes are on 1¼″ centers. An inexpensive current supply connector for TV sets.

MODEL 2R2 110-250 VOLT SOCKET

Rated at 15 amps, 110 V, or 10 amps, 250 V. Accepts any standard 2-prong electric plugs. Mounts in 11⁄4″ x 11⁄16″ hole. Ideal for radio and TV chassis. UL Listed.

MODEL 2RP-1 RECESSED PLUG

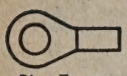
Recessed sub-panel mounting type plug. One piece contact. Perfect for current supply for TV sets. Rated at 125 V, 7 amps. Size: ⅝″ w. x 1⅝″ lg., overall; body 1⁄16″. d. Mtg. Ctrs.: .140/.145″. UL App.

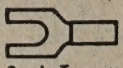
PRICING FOR JACKS AND PLUGS

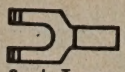
Cinch No.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
13-A	$0.125	$0.110	$0.096	$0.082	$0.070
13-B	.232	.191	.162	.136	.125
13-E	.125	.110	.096	.082	.070
81-A	.21	.17	.15	.14	.13
81-B	.28	.23	.20	.17	.15
81-C	.25	.20	.17	.15	.14
81-G	.61	.52	.44	.35	.33
2FP	.183	.141	.128	.112	.101
2RP-1	.183	.141	.128	.112	.101
2R2	.29	.24	.22	.20	.19

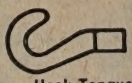
VACO® Solderless Terminals, Tools

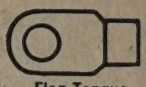
NON-INSULATED SOLDERLESS TERMINALS WITH SINGLE-GRIP BARREL


Ring Tongue


Spade Tongue


Spade Tongue (with Flange)


Hook Tongue


Flag Tongue

RING TONGUE TYPE

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C11204	22-18	4	$3.65	$32.89	$29.60
C11205*	22-18	5*	3.65	32.89	29.60
C11206*	22-18	6†	3.65	32.89	29.60
C11208*	22-18	8	3.65	32.89	29.60
C11210*	22-18	10	3.65	32.89	29.60
C11214*	22-18	12-¼"	4.51	40.62	36.55
C11238	22-18	⅜"	4.51	40.62	36.55
C11304	16-14	4	3.65	32.89	29.60
C11305*	16-14	5*	3.65	32.89	29.60
C11306*	16-14	6†	3.65	32.89	29.60
C11308*	16-14	8	3.65	32.89	29.60
C11310*	16-14	10	3.65	32.89	29.60
C11314*	16-14	12-¼"	4.51	40.62	36.55
C11338	16-14	⅜"	4.51	40.62	36.55
C11406	12-10	5-6	4.51	40.62	36.55
C11408	12-10	8	4.51	40.62	36.55
C11410*	12-10	10	4.51	40.62	36.55
C11414*	12-10	12-¼"	6.05	54.45	49.01
C11438*	12-10	⅜"	6.05	54.45	49.01

*Also fits #6 stud. †Also fits #5 stud.

*Available in "Dollar Connector Pak".

SPADE TONGUE TYPE

C14206 has flange.

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C13204	22-18	4	$3.25	$29.18	$26.27
C13206*	22-18	5-6	3.25	29.18	26.27
C13208*	22-18	8	3.65	32.89	29.60
C13210*	22-18	10	3.65	32.89	29.60
C13306*	16-14	4-6	3.65	32.89	29.60
C13308*	16-14	8	3.65	32.89	29.60
C13310*	16-14	10	3.65	32.89	29.60
C13406	12-10	4-6	4.51	40.62	36.55
C13408	12-10	8	4.51	40.62	36.55
C13410*	12-10	10	4.51	40.62	36.55
C14206*	22-18	4-6	3.25	29.18	26.27

HOOK TONGUE TYPE

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C15206	22-18	4-6	$3.65	$32.89	$29.60
C15208*	22-18	8	3.65	32.89	29.60
C15210	22-18	10	3.65	32.89	29.60
C15306	16-14	4-6	3.65	32.89	29.60
C15308	16-14	8	3.65	32.89	29.60
C15310	16-14	10	3.65	32.89	29.60
C15408	12-10	8	4.51	40.62	36.55
C15410	12-10	10	4.51	40.62	36.55

FLAG TONGUE TYPE

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C16210	22-18	8-10	$3.65	$32.89	$29.60
C16310	16-14	8-10	3.65	32.89	29.60
C16410	12-10	8-10	4.51	40.62	36.55

CRIMPING TOOLS

1900 Crimping Tool

All crimping tools listed also cut and strip wire from 22 to 10 gauge.

Vaco No.	Description	Net Each
1900	For non-insulated terminals	$5.72
1963	For insulated, non-insulated terminals, with bolt slicer	6.67

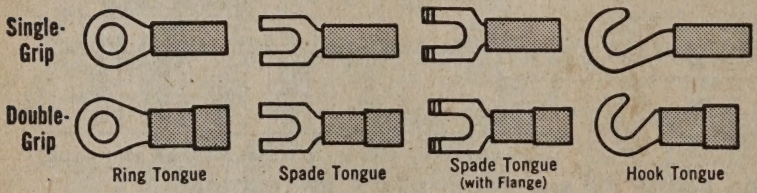
"DOLLAR CONNECTOR PAKS"

Vaco "Dollar Connector Paks"—Any solderless terminal and connector or tubing listed, with star (*) is available in "Dollar Connector Pak". Quantity in each pak depends on the type and size selected ranging from 5 pieces to 80 pieces. Each pak supplied with an identified plastic box. Use prefix "D" instead of "C" when ordering. Net Ea. Pak . . **$1.00**

Vaco D2209 Assortment "Dollar Connector Pak"—Assortment of 26 non-insulated single grip terminals. Net Each Pak **$1.00**

Vaco D2210 Assortment "Dollar Connector Pak"—Assortment of 13 insulated single grip terminals. Net Each Pack **$1.00**

INSULATED SOLDERLESS TERMINALS



WITH SINGLE-GRIP BARREL

RING TONGUE TYPE

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C51204	22 18	4	$6.37	$57.28	$51.56
C51205*	22-18	5*	6.37	57.28	51.56
C51206*	22-18	6†	6.37	57.28	51.56
C51208*	22-18	8	6.37	57.28	51.56
C51210*	22-18	10	6.37	57.28	51.56
C51214*	22-18	12-¼"	7.46	67.08	60.38
C51238*	22-18	⅜"	7.46	67.08	60.38
C51304	16-14	4	6.37	57.28	51.56
C51305*	16-14	5*	6.37	57.28	51.56
C51306*	16-14	6†	6.37	57.28	51.56
C51308*	16-14	8	6.37	57.28	51.56
C51310*	16-14	10	6.37	57.28	51.56
C51314*	16-14	12-¼"	7.46	69.08	60.38
C51338*	16-14	⅜"	7.46	69.08	60.38
C51406	12-10	4-6	7.46	69.08	60.38
C51408*	12-10	8	7.46	67.08	60.38
C51410*	12-10	10	7.46	67.08	60.38
C51414*	12-10	12-¼"	9.20	82.76	74.49
C51438*	12-10	⅜"	9.20	82.76	74.49

*Also fits #6 stud. †Also fits #5 stud.

*Available in "Dollar Connector Pak".

SPADE TONGUE TYPE

C54206 has flange.

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C53204	22-18	4	$6.37	$57.28	$51.56
C53206*	22-18	5-6	6.37	57.28	51.56
C53208*	22-18	8	6.37	57.28	51.56
C53210*	22-18	10	6.37	57.28	51.56
C53306*	16-14	4-6	6.37	57.28	51.56
C53308*	16-14	8	6.37	57.28	51.56
C53310*	16-14	10	6.37	57.28	51.56
C53406	12-10	4-6	7.46	67.08	60.38
C53408*	12-10	8	7.46	67.08	60.38
C53410*	12-10	10	7.46	67.08	60.38
C54206*	22-18	4-6	6.37	57.28	51.56

HOOK TONGUE TYPE

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C55206	22-18	4-6	$6.37	$57.28	$51.56
C55208*	22-18	8	6.37	57.28	51.56
C55210	22-18	10	6.37	57.28	51.56
C55306	16-14	4-6	6.37	57.28	51.56
C55308*	16-14	8	6.37	57.28	51.56
C55310	16-14	10	6.37	57.28	51.56
C55408	12-10	8	7.46	67.08	60.38
C55410	12-10	10	7.46	67.08	60.38

WITH DOUBLE-GRIP BARREL

RING TONGUE TYPE

Vaco No.	Wire Size	Stud Size	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C91204	22-18	4	11.13	100.19	$90.17
C91205	22-18	5*	11.13	100.19	90.17
C91206	22-18	6†	11.13	100.19	90.17
C91208	22-18	8	11.13	100.19	90.17
C91210	22-18	10	11.13	100.19	90.17
C91214	22-18	12-¼"	13.78	124.04	111.64
C91238	22-18	⅜"	13.78	124.04	111.64
C91304	16-14	4	11.13	100.19	90.17
C91305	16-14	5*	11.13	100.19	90.17
C91306	16-14	6†	11.13	100.19	90.17
C91308	16-14	8	11.13	100.19	90.17
C91310	16-14	10	11.13	100.19	90.17
C91314	16-14	12-¼"	13.78	123.93	111.54
C91338	16-14	⅜"	13.78	123.93	111.54
C91406	12-10	5-6	13.78	123.93	111.54
C91408	12-10	8	13.78	123.93	111.54
C91410	12-10	10	13.78	123.93	111.54
C91414	12-10	12-¼"	14.01	126.12	113.50
C91438	12-10	⅜"	14.01	126.12	113.50

SPADE TONGUE TYPE

C94206 has flange.

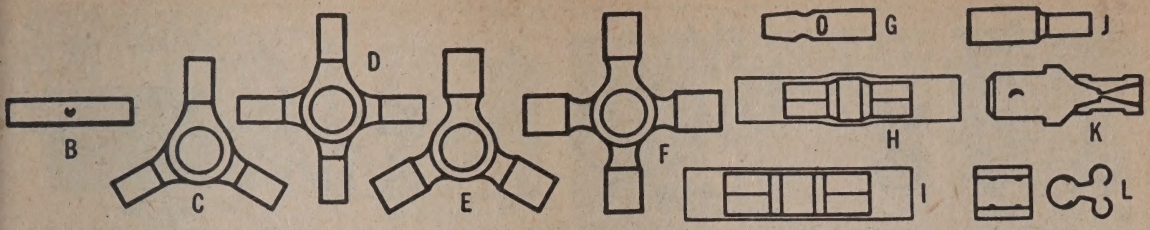
C93204	22-18	4	11.13	100.19	$90.17
C93206	22-18	5-6	11.13	100.19	90.17
C93208	22-18	8	11.13	100.19	90.17
C93210	22-18	10	11.13	100.19	90.17
C93306	16-14	4-6	11.13	100.19	90.17
C93308	16-14	8	11.13	100.19	90.17
C93310	16-14	10	11.13	100.19	90.17
C93406	12-10	4-6	13.78	123.93	111.54
C93408	12-10	8	13.78	123.93	111.54
C93410	12-10	10	13.78	123.93	111.54
C94206	22-18	4-6	11.13	100.19	90.17

HOOK TONGUE TYPE

C95210	22-18	10	11.13	100.19	$90.17
C95310	16-14	10	11.13	100.19	90.17

*Also fits #6 stud. †Also fits #5 stud.

VACO® Solderless Connectors, Kits



NON-INSULATED SINGLE GRIP CONNECTORS

Vaco No.	Fig.	Connector Type	Wire Size	Size, In. Lg. x Dia.	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C17202*	B	Butt	22-18	5/8 x 9/64	$ 3.65	$ 32.89	$ 29.60
C17302*	B	Butt	16-14	5/8 x 5/32	3.65	32.89	29.60
C17402*	B	Butt	12-10	11/16 x 7/32	3.65	32.89	29.60
C17303	C	3-way	16-14	25/32 x 5/32	11.86	106.72	96.05
C17304	D	4-way	16-14	15/16 x 5/32	15.50	139.62	125.60
C17403	E	3-way	12-10	25/32 x 7/32	15.17	136.61	122.94
C17404	F	4-way	12-10	15/16 x 7/32	19.40	169.88	157.30
C19301*	G	Snap	16-14	5/8 x 5/32	2.81	25.27	22.74
C19303*	G	terminal	16-14	43/64 x 5/32	3.03	27.23	24.51
C19302*	H	Snap	.....	3/4 x 1/4	6.66	59.90	53.91
C19304*	I	Snap	.....	61/64 x 1/4	7.82	70.35	63.32
C19305*	J	Stop Lite sw. conn.	.....	11/16 x 5/16	3.65	32.89	29.60

INSULATED SINGLE GRIP CONNECTORS

C57202*	B	Butt	22-18	1 1/16 x 3/16	$ 6.37	$ 57.28	$ 51.56
C57302*	B	Butt	16-14	1 1/16 x 13/64	6.37	57.28	51.56
C57402*	B	Butt	12-10	1 1/16 x 17/64	7.05	63.49	57.13
C57303	E	3-way	16-14	1 1/16 x 13/64	22.28	200.49	180.43
C57304	F	4-way	16-14	1 1/2 x 13/64	31.24	281.18	253.06
C57403	E	3-way	12-10	1 25/32 x 17/64	27.61	248.51	223.65
C57404	F	4-way	12-10	1 11/16 x 17/64	36.37	327.25	294.53

*Available in "Dollar Connector Pak".

QUICK CONNECTORS—SOLDERLESS
NON-INSULATED, SINGLE GRIP

Vaco No.	Fig.	Description	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C18001*	K	Snap to male adapter	$6.05	$54.45	$49.01
C18002*	L	Male to female adapter	6.05	54.45	49.01
C18006	M	Screw type to tab adapter*	3.65	32.89	29.60
C18007*	N	Snap conn. to female adapter	5.51	49.56	44.61
C18010*	Q	Screw type to tab adapter†	3.65	32.89	29.60
C18204*	R	Female tab, AWG#22-18	3.65	32.89	29.60
C18301*	S	Male tab, AWG#18-14	3.65	32.89	29.60
C18302*	R	Female tab, AWG#18-14	3.65	32.89	29.60
C18303*	T	Angle male tab, AWG#18-14	3.65	32.89	29.60
C18304*	U	Angle female tab, AWG#18-14	3.65	32.89	29.60

INSULATED—SINGLE GRIP

C58301*	S	Male; AWG #18-14; 63/64" lg.	$6.37	$57.28	$51.56
C58302*	R	Female; AWG #18-14; 63/64" lg.	7.45	66.98	60.28

INSULATED—DOUBLE GRIP

C98301	V	Male; AWG#18-14; 63/64" lg.	$11.13	$100.19	$90.17
C98302	W	Female; AWG #18-14; 63/64" lg.	11.13	100.19	90.17

*Fits #4-6 stud. †Fits #8-10 stud. *Available in "Dollar Connector Pak".

SPECIALTY TYPE CONNECTORS (NOT ILLUS.)

Vaco No.	Description	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C10101	Distributor cap terminal	$2.76	$24.81	$22.33
C10102	Straight ignition terminal	2.99	26.86	24.18
C10103	Angle ignition terminal	5.48	49.34	44.40

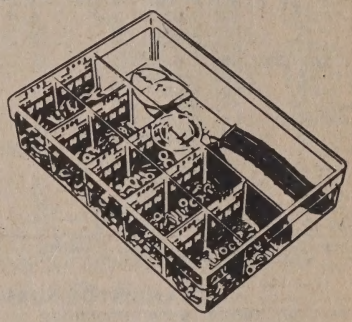
INSULATION TUBING, BOOTS FOR TERMINALS

Vaco No.	Fig.	Wire Size	Size, Inches Lg. x Dia.	Net per 100	Net per 1000 1000-4999	Net per 1000 5000 Up
C14002*	B	16-14	5/8 x 5/32	$1.23	$11.11	$10.00
C14101*	B	22-16	1 1/4 x 5/32	2.64	23.74	21.37
C14102*	B	16-14	1 1/4 x 5/32	3.03	27.23	24.51
C14103*	B	12-10	1 1/4 x 7/32	4.03	36.27	32.64
C14104*	Boots for single-grip connectors; 7/8" lg. x 3/8" w			5.54	49.87	44.89
C14105*				5.54	49.87	44.89
C14106*	Same, but 1" lg. x 5/16" w.			17.64	158.75	142.90

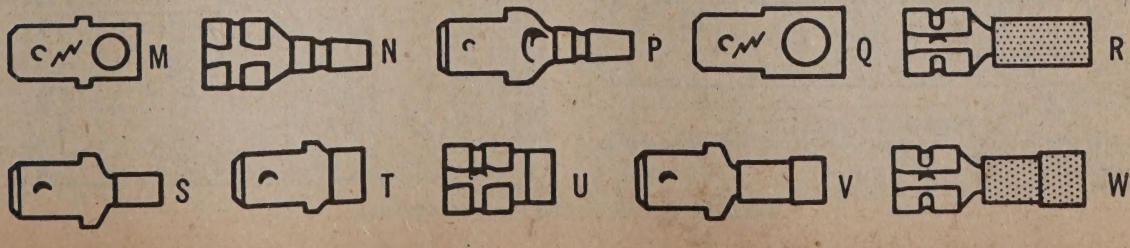
*Available in "Dollar Connector Pak".

SOLDERLESS TERMINAL KITS

The simplest terminals to use ever made. Three steps and the terminal is on: Cut the wire (using the wire cutter built into the Crimping Tool); strip the wire (using the Crimping Tool); crimp the terminal around the wire (using the Crimping Tool). No soldering . . . No heating . . . No special skills needed . . . A perfect job every time.



Vaco No.	Description	Net Each
1398	**Connect-All Kit:** Over 200 most popular non-insulated single grip terminals in a 10-compartment refillable box	$ 4.38
2398	**Connect-All Kit:** Over 90 most widely used insulated single grip terminals in a 10-compartment refillable box.	4.38
2090	**Automotive Service Kit:** No. 1900 Crimping Tool plus 10 different types of popular single grip terminals and insulation tubing in a plastic box	10.45
2195	**Radio-TV, General Purpose Kit:** No. 1900 Crimping Tool plus 10 different types of popular electrical, radio and TV single grip terminals in a plastic box	10.45
3185	**Quick Connect Terminal Kit:** For appliance, automotive, and electrical services. Has No. 1900 Crimping Tool plus varied assortment of popular quick connect terminals and adapters	10.45
6065 -63	**Insulated Terminal Automotive Kit:** No. 1963 Crimping Tool plus 10 different types of popular insulated single grip terminals in a plastic box	11.28
6175 -63	**Insulated Terminal General Purpose Kit:** For electronics, electrical general purpose use. Has No. 1963 Crimping Tool and 10 different types of popular insulated single grip terminals in a plastic box	11.28
1800	**Empty plastic box** (cover included) for all above kits	1.83
4900 -63	**"Cash Register" Assortment:** No. 1963 Crimping Tool plus 500 insulated solderless terminals (20 different numbers) in a metal case with hinged cover	37.40
5000	**"Cash Register" Assortment:** No. 1900 Crimping Tool plus 1,000 non-insulated solderless terminals (20 different numbers) in a metal case with hinged cover	37.40

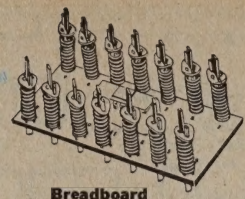


Vector Socket Turrets, Adapters

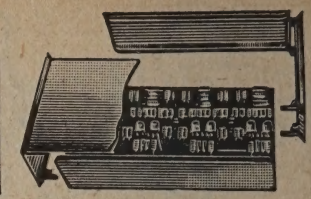
10-O-12T

8-12

T-9-N-C


Breadboard Sockets

Vectoresist


Frame-Loc

SOCKET TURRETS

Compact, efficient mount for circuit components. Grade XXXP phenolic posts ⅛" O.D., 1/16" wall; mica filled sockets; fused tin brass terminals; hot tin dipped steel saddles. Turret has six terminals at far end; three, six or nine near socket. Terminal turrets without sockets used for many mountings. Military types available with MIL sockets, silver-plated beryllium copper contacts, nickel-plated tin-dipped brass saddles and glass silicone turret post with fused tin brass terminals. Longer or shorter types and other terminal configurations available on special order. Dimension tolerance, ± 1/16".

Vector Comm. Type No.	MIL No.	Type	Hgt., In.	No. of Term.	No. of Rings	Space Between Rings, Inches	Net Each Com. Type
6-O-6T	680	Octal	1⅛	6	1	.....	$0.91
8-O-9T	681	Octal	2	9	2	1	1.01
10-O-9T	683	Octal	2⅛	9	2	1⅜	1.05
10-O-12T	684	Octal	2⅛	12	2	1⅜	1.10
6-M-6T	687	7-pin	1⅛	6	1	.....	1.05
8-M-9T	688	7-pin	2	9	2	1	1.16
8-M-12T	689	7-pin	2	12	2	1	1.19
10-MB-12T	690	7-pin	2⅛	12	2	1⅜	1.34
6-N-6T	693	9-pin	1⅛	6	1	.....	1.05
8-N-9T	694	9-pin	2	9	2	1	1.16
8-N-12T	695	9-pin	2	12	2	1	1.19
10-NB-12T	696	9-pin	2⅛	12	2	1⅜	1.34
6-12	676	Term.*	1 11/64	12	2	⅝	.87
8-12	677	Term.*	1 11/64	12	2	1	.91
10-12	678	Term.*	2 11/64	12	2	1⅜	.97
12-12	679	Term.*	2 11/64	12	2	1⅞	1.07
8-12-C	.....	Term.†	2.0	12	2	1.00	1.05
10-12-C	.....	Term.†	2.5	12	2	1⅜	1.08
6-H-12	.....	Term.‡	1.5	12	2	⅞	.83

Terminal types: *No socket; †Bolted, no washers; ‡Hollow tube type with threaded 6-32 knurled nut in one end.

TRANSISTOR TURRETS

Transistor turrets permit mounting of transistors and other essential circuit components on one structure. Socket type accommodates three inline or "top-hat" transistors. Wafer turret holds four transistors on wafer punched for JEDEC or inline leads. Type 6- or 9-A-12T-440 is supplied with knurl nut.

Vector No.	Hgt., In.	Space Between Rings, In.	Space Between Wafers, In.	Saddle	Net Each
6-A-12T	1⅛	⅞	.....	Yes	$1.76
6-A-12T-440	1⅛	⅝	.....	No	1.72
8-A-12T	2	1⅜	.....	Yes	1.79
9-A-12T-440	2¼	1⅜	.....	No	1.79
654*	2⅛	1⅜	2 1/16	No	1.27

*Wafer type.

TUBE SOCKETS

Miniature and noval tube socket types permit passing of ⅛" rivet or #5 screws on .875" centers, 7-pin; 1.125" centers, 9-pin; 8-pin octal types with .136" holes on 1.312" centers. No center shields. With hot tin dipped saddles; available with counterbore for turret applications (Types R71J and R91J). Mica filled phenolic with cadmium plated brass terminals; suffix J indicates beryllium copper contacts, silver-plated and hot tin dipped.

Vector No.	Min. Type	Ctr. Bore	Net Each	Vector No.	Octal Type	Ctr. Bore	Net Each
R71J	7-pin	Yes	$0.77	R8.5	8-pin	No*	$1.24
R7J	7-pin	No	.44	R8J‡	8-pin	No*	1.08
R91J	9-pin†	Yes	.92	R9J	9-pin†	No	.92

*1/16" holes on ⅛" centers. †Noval type. ‡Military type TS10P01 with nickel plated brass flash.

TUBE SOCKET TEST ADAPTERS

Each adapter has straight through plug to socket connections extended to radial test tabs on adapter skirt surrounding the socket. Tabs are recessed into skirt. Contacts of highest quality beryllium copper. Molded phenolic bodies.

Vector No.	Tube Type	Body Dia.	Skirt Dia.	Length*	Net Ea.
T-7-M	7-Pin Min.	0.75"	1.03"	1.50"	$2.75
T-8-O	8-Pin Octal	1.25"	1.56"	1.50"	2.89
T-9-N	9-Pin Noval	0.87"	1.16"	1.50"	2.89
P-1	Probe for above adapters				.72
T-789	Set of above 4 items in plastic case				9.30

*Less prongs.

TUBE BASE SHIELDS

Mount above socket as a base for bayonet type tube shields. Cadmium plated steel.

Vector No. S-7—7-pin type. Net Each..... $0.24
Vector No. S-9—9-pin type. Net Each..... .24

BREADBOARD SOCKETS

Breadboarding of tube and IC circuitry. Reliable solderless springclip terminals are soldered to socket contacts on underside of wafer to make connection to any socket. Simply place wire (up to six) in springclip terminal.

Vector No.	Description	Net Each
567-1C	8-pin octal solderless socket w/mtg. hardware	$1.89
568-1C	9-pin noval solderless socket w/mtg. hardware	2.08
569-1C	7-pin min. socket w/mtg. hardware	1.70
570B	Transistor socket (4 lead) press fits in "A" pattern Vectorbord®	3.14
570G	14-pin dual-in-line solderless skt for IC devices	4.15
570F	12-pin IC socket	4.98

CURRENT TEST ADAPTERS

Make tube circuit current or voltage measurements without cutting leads or making computations; made from tube side of equipment. Special dual-sided probe "breaks" circuit to read current. Adapter placed between tube and socket; tabs provide test points. Adapters fit into shield bases for miniature and noval types; or, standard tube clamps.

Vector No.	Description	Net Each
T-7-M-C	Miniature 7-pin socket adapter	$ 5.23
T-8-O-C	Octal socket adapter	6.57
T-9-N-C	Noval socket adapter	5.61
T-9-R-C	9-pin Novar socket adapter	5.45
T-12-C	Compactron 12-pin socket adapter	6.71
P-2	Dual sided plug-in probe for above	1.52
T-789-C	Set of first 3 adapters, P-2 and case	20.02
T-912-C	Set of last 2 adapters, P-2 and case	15.48

EXPERIMENTERS' TEST ADAPTERS

Less shells and tabs; connections can be cross-connected by user; must be soldered.

Vector No.	Socket Type	Lgth., less prongs	Net Each
TX-8-O	Octal	1.45"	$ 3.65
TX-7-M	Min. 7-pin	1.41"	1.96
TX-9-N	Noval	1.41"	1.70
T-7-M-S	Min. 7-pin*	3.25"	12.24
T-8-O-S	Octal*	4.00"	13.64
T-9-N-S	Noval*	3.25"	13.64

*Extended socket adapters with outer shells.

VECTORESIST

Rub-on resist used for making etched circuits in place of tapes. Big 10" x 15" semi-transparent sheets of resist printed with resist ink which transfers when back is rubbed with ball point pen. Transfer to copper clad board and etch in ferric chloride or ammonium persulfate. R322 sheet is universal type with various width lines, circles, pads, dots and 3 connector patterns with contacts spaced on .156 centers. R405 is assorted straight lines from 1/64" to 1/16" wide. R406 is sheet of transistor pad patterns and 1/32" and ⅛" pads.

Vector No.	Description	Net Each
R322	Rub-on Resist 10" x 15" sheet all purpose	$2.65
R405	Rub-on Resist—lines	2.65
R406	Rub-on Resist Transistor pads	2.65

GRID LAYOUT PAPER (NOT ILLUS.)

Pads of tracing paper with dots corresponding to Vectorbord patterns "A" with .093 holes on .265 centers and "G" with .062 holes on alternate 0.1 centers. Use for laying out wiring patterns before installing terminals in pre-punched Vectorbord.

Vector No.	Description	Net Each
R173A-1	Pads of 50 sheets 8½" x 17"	$2.63
R173A	Pads of 50 sheets 8½" x 11"	1.72
R173G	Pads of 50 sheets 8½" x 11"	2.10

FRAME-LOC RAILS

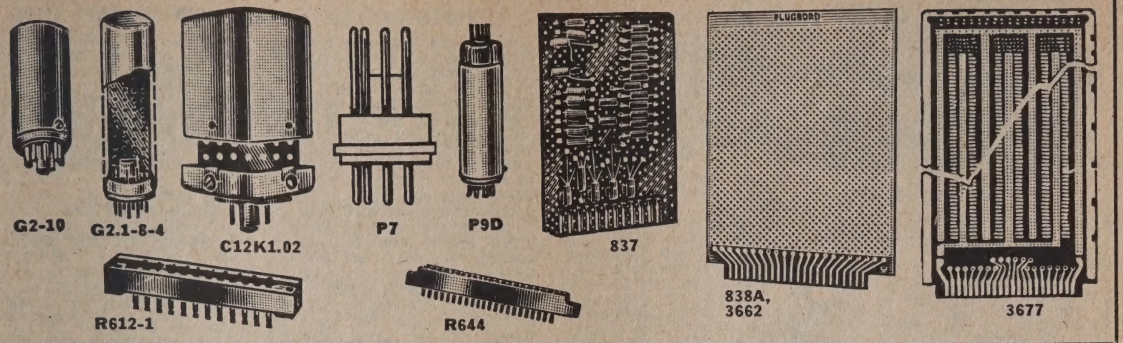
Handsome extruded aluminum rails of varying widths with 1/16" or 1/32" grooves running lengthwise for holding printed circuit boards. Rails are supplied with 45° mitred ends and corner brackets and screws which permit making good looking cases in minutes. Use aluminum panels listed below for covers or supply your own. Can be cut for making card guides.

Vector No.	Description	Net Each*
SR1-31-062	Pair 1" wide x 3.11" long	$1.40
SR1-46-062	Pair 1" wide x 4.61" long	1.54
SR2-31-062	Pair 2" wide x 3.11" long	1.62
SR2-46-062	Pair 2" wide x 4.61" long	1.89
SR2-66-062	Pair 2" wide x 6.61" long	2.25
SR2-48-093	Pair 2" wide x 4.91" long	1.91
SR2-85-093	Pair 2" wide x 8.61" long	2.51
SR2-170-093	Pair 2" wide x 17.1" long	4.19
PL48-85	4.8" wide x 8.5" long panel	1.59
PL48-170	4.8" wide x 17" long panel	1.39
PL85-170	8.5" wide x 17" long panel	3.64

*Package of 2.

QUANTITY PRICES AVAILABLE ON REQUEST

Vector Socket Turrets, Boards



PLUG-IN UNITS

Small round and square plug-ins are ideal for packaging hand-wired, printed or solid state plug-in modules. Aluminum case provides shielding and strength. Wide variety of internal structures for easy circuit wiring. Plugs are standard tube base style. Plug key in octal-based units points toward case corner.

Vector Number	Plug Type	Case Size, Shape x Ht. I	Internal Structure	Net Each
B-8	Octal	1.42″ sq. x 2″	None	$2.07
B-10	Octal	1.42″ sq. x 2.5″	None	2.08
B-10-N*	Octal	1.42″ sq. x 2.5″	Turret	3.48
B-10-T	Octal	1.42″ sq. x 2.5″	Turret	2.69
B-10-4†	Octal	1.42″ sq. x 2.5″	Card w/terms.	3.80
C-10	Octal	2″ sq. x 2.5″	None	1.96
C-12	Octal	2″ sq. x 3″	None	1.86
C-12K1.02	Octal	2″ sq. x 3″	None	1.42
C-12-T	Octal	2″ sq. x 3″	Turret with 12 lugs	2.85
G2-10	Octal	1 ¼″ dia. x 2 ½″	None	1.41
G2.10T-1	Octal	1 ¼″ dia. x 2 ½″	Term. turret and wafer	2.68
G2-10-4§	Octal	1 ¼″ dia. x 2 ½″	Card w/terms.	2.98
G2.1-8	Min. 9-pin	¾″ dia. x 2″	Spacer	1.75
G2.1-8F	Min. 9-pin	¾″ dia. x 2″	None	1.81
G2.1-8-4♯	Min. 9-pin	¾″ dia. x 2″	Card w/terms.	2.79
G2.2-8F	Min. 7-pin	.625″ dia. x 2″	None	1.23
G2.2-8-4•	Min. 7-pin	.625″ dia. x 2″	Card w/terms.	2.76
511	Terminal card 1.9″ x 2.7″; .093″ holes▲			.99
514	Terminal card 1.9″ x 2.7″; .062″ holes■			1.24

*Has 9-pin noval socket mounted in top. †Has wall 1.37″ w. x 1.87″ lg. with .093″ holes on .265″ centers and terminals. §Has wall 1.08″ w. x 1.78″ lg. with .093″ holes on .250″ centers and terminals. ♯Has wall .60″ w. x 1.62″ lg. with .062″ holes on .141″ centers and terminals. •Has wall .46″ w. x 2″ lg. with .062″ holes on .141″ centers and terminals. ▲Holes on .265″ centers. ■Holes spaced alt. 0.1″. ILess prongs.

TUBE BASE PLUGS

Mica-filled castings with phosphor bronze cadmium plated pins. Mount with 5-40 or 4-40 screw thru center hole (except K1.14).

Vector Number	Tube Type	Dia., Inches	Pin Size, Inches	Net Each
P7	7-pin Min.	.620	17/32	$0.62
P9	9-pin Noval	.750	17/32	.67
P7A	7-pin Min.	.620	3/16	.62
P9A	9-pin Noval	.750	3/16	.67
K1.302	7-pin Min.*	.620	17/32	.62
K1.402	9-pin Noval*	.750	17/32	.67
K1.334	7-pin Hooked	.620	3/16	.69
K1.434	9-pin Hooked*	.750	3/16	.72
K1.313	7-pin Min.*†	.620	3/16	.62
K1.413	9-pin Noval*†	.750	3/16	.67
P8L	8-pin Loctal*	1.156	13/32	1.50
K1.14	14-pin	.750	17/32	1.31

*No center post. †No keyway.

CABLE CONNECTOR PLUGS

Permit connecting cables to miniature and noval tube sockets. Aluminum shells fitted to 7-pin and 9-pin plugs. In type D, Heyco strain relief grommet mounted in the end of the shell; base screws hold the shell on the plug. In type C, a rubber grommet with ¼″ hole is mounted in side wall and center screw holds assembly together. Approx. length, 2 ½″, less pins.

Vector No. P7D—7-pin, ⅝″ O.D. end outlet. Net Each... $1.92
Vector No. P9D—9-pin, ¾″ O.D. end outlet. Net Each.. 2.61
Vector No. P7C—7-pin, ⅝″ O.D., side outlet. Net Each.... 1.92
Vector No. P9C—9-pin, ¾″ O.D., side outlet. Net Each.... 2.15

VECTOR-PAK DISCRETE CARD GUIDE CAGES

Cages with plugbords installed are 19″ w. x 9″ d. x 5¼″ h., slotted for rack mounting. Six heavy extruded aluminum cross members, aluminum side walls. Will accommodate cards 3″ to 4½″ wide and up to 7⅞″ long. Infinitely variable connector mounting without drilling holes. Partially assembled.

Vector No. CCK-13—Cage with discrete aluminum card guides to accommodate 20 cards at ¾″ intervals. Can be adjusted for other spacing in multiples of ¼″. Net Each..... $34.07
Vector No. CCK-3—Has extruded aluminum guide plates rather than individual card guides, with slots every .150″ over entire width of cage. Net Each..... $28.82

PLUGBORDS

Pre-punched plugbords speed production of printed circuit prototypes or serve as ready-to-wire structures for card mounted circuitry in any equipment using plug-in circuit cards. Plugbords are 1/16″ thick epoxy paper per MIL-P-22323 Type PEE or G-10 epoxy glass per MIL-P-18177 with pre-punched .062 holes located on alternate 0.1 centers. Contacts attached at bottom are Elco Varicon on .2 centers or 2 oz. copper etched on .156 centers with "lands" terminating around holes near bottom edge of board. Precision punched holes accept Vector T-28 MiniKlips, standard turned terminals, or eyelets. Plugbord 838PWE (not illustrated) has transistor pad on one side of board to speed wiring.

Vector No.	Type	Contacts	Size, In.	Net Each
812	Epoxy paper	16 Varicon	4½ x 6½	$4.34
812WE	Epoxy glass	16 Varicon	4½ x 6½	5.12
R616-1	Recept. for above	16	.....	2.82
837	Epoxy paper	12 Varicon	3 x 4½	3.39
837WE	Epoxy glass	12 Varicon	3 x 4½	3.76
R612-1	Recept. for above	12	.....	3.49
848WE	Epoxy glass	35 Varicon	4½ x 6½	8.86
838	Epoxy paper, 2 sides	43 etched	4½ x 6½	5.19
838A	Epoxy paper, 1 side	22 etched	4½ x 6½	3.77
838PWE	Epoxy glass, 1 side	22 etched	4½ x 6½	5.38

DIP PLUGBORDS

3677 Series: Mount up to 24 14-lead IC sockets (21 16-lead) and components. Punched grid has .042″ holes spaced 0.1″; etched buses one side for Vcc and ground are tinned. FR-4 epoxy glass per MIL-P-13949, Type FL-GF. Gold plated contacts (two sides). **3682 Series:** Same as 3677 but mounts up to 54 14-lead sockets (48 16-lead). For Wire-Wrap* sockets, T44 Miniwrap terminals. Type 3682-4 has ground plane on back with etched clearance around each hole. **Universal Types 3662 and 848PWE:** Punched boards without etched circuit pattern. **X-Y Series 3474-3477:** Copper etched tinned lines run vertically on one side and horizontally on reverse, or vertically one side only (Y type). Type PX epoxy paper. **Type 3690 Extender:** Permits operation of wired plugbords outside of card enclosures. Epoxy glass.

Vector No.	Contacts	Description	Size, Inches	Receptacle	Net Each
3677	44	Epoxy glass	4.5 x 9.6	R644	$10.38
3677-2	44	Epoxy glass	4.5 x 6.5	R644	9.28
3682	44	Epoxy glass	4.5 x 9.6	R644	10.97
3682-2	44	Epoxy glass	4.5 x 6.5	R644	9.81
3682-4	44	Epoxy glass	4.5 x 6.5	R644	10.69
3662	44	Universal; glass	4.5 x 6.5	R644	5.95
848PWE	35*	Universal; glass	4.5 x 6.5	R635	9.14
3474	44	X-Y matrix; paper	4.5 x 6.5	R644	12.13
3474-3	22	Y matrix; paper	4.5 x 6.5	R644	9.33
3476	35*	X-Y matrix; paper	4.5 x 6.5	R635	14.35
3476-3	35*	Y matrix; apper	4.5 x 6.5	R635	11.31
3477	44	X-Y; no notches	4.5 x 6.5	R636	11.48
3795	44	Epoxy glass	2.73 x 4.5	R644-2	5.03
3795-1	44	Epoxy glass	2.73 x 4.5	R644-2	6.42
3795-2	44	Phenolic	2.74 x 4.5	R644-2	3.30
3795-3	44	Phenolic	2.73 x 4.5	R644-2	3.99
3797	30	Epoxy glass	2.73 x 4.5	R630	4.66
3797-1	30	Phenolic	2.73 x 4.5	R630	3.81
3797-2	30	Epoxy glass	2.73 x 4.5	R630	6.01
FPA-14-2	44	Epoxy glass	4.5 x 6.5	R644-1	7.22
R635	35*	Receptacle	4.21 x .531 x .828		6.35
R636	72	Receptacle	4.57 x .34 x .735		6.41
R644	44	Receptacle	4.29 x .34 x .458		3.87
R644-1	44	Receptacle	4.28 x .36 x .730		6.99
R644-2	44	Receptacle	3.16 x .37 x .625		5.21
R630	30	Receptacle	3.19 x .34 x .458		6.18
3690	44	Extender	4.5 x 8	†	10.24
P139	Line	cutter tool‡			4.04

*Elco Varicon contacts. †Permanently mounted receptacle. ‡For 3474-3477 plugbords. *Reg. Gardner-Denver TM.

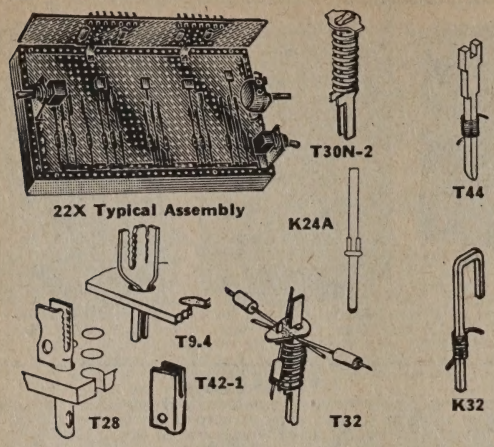
BR27 SERIES RECEPTACLE MTD. CARD GUIDES

Provides support for receptacle supported circuit boards. For plugbords with centered contacts except BR27-2 for .050″ offset contact plugbords. With mounting hardware.
Any Model—Net per Pair..... $1.00

Vector No.	Use With Receptacle	Use With Board	Vector No.	Use With Receptacle	Use With Board
BR27	R644, -1	4.5″ w.	BR27-3	R630	2.73″ w.
BR27-1	R636	4.5″ w.	BR27-4	R644-2	2.73″ w.
BR27-2	R644, -1	4.25″ w.			

QUANTITY PRICES AVAILABLE ON REQUEST

Vector Terminals and Kits



PUSH-IN TERMINALS

Zip push-in terminals push into appropriate size holes and hold without staking (may be staked if required). Use for experimental prototype or production applications. For faster insertion in circuit boards, order insertion tools.

Vector Number	Fits Hole	Description	Net Pkg.
T9.4 Pkg. 100	.093	Brass brite tin plated	$ 1.74
T9.4 Pkg. 1000	.093	Brass brite tin plated	12.43
T28 Pkg. 100	.062	Beryl. copper, brite tin plated	1.77
T28 Pkg. 1000	.062	Beryl. copper, brite tin plated	12.61
T28S Pkg. 100	.062	Beryl. copper, silver plated	2.27
T28S Pkg. 1000	.062	Beryl. copper, silver plated	17.87
K24A Pkg. 50	.042	Phospher bronze, nickel gold plated	2.50
K24A Pkg. 1000	.042	Phospher bronze, nickel gold plated	32.37
K26A Pkg. 50	.025	Phospher bronze, nickel gold plated	2.59
K26A Pkg. 1000	.025	Phospher bronze, nickel gold plated	30.07
K32 Pkg. 100	*	Phosphor bronze "J" pin	1.46
K32 Pkg. 1000	*	Phosphor bronze "J" pin	10.89
T30-2 Pkg. 10	.093	Brass nickel, silver plated	1.38
T30-2 Pkg. 100	.093	Brass nickel, silver plated	10.35
T30-2 Pkg. 1000	.093	Brass nickel, silver plated	73.83
T32 Pkg. 10	.093	Brass nickel, silver plated	1.97
T32 Pkg. 100	.093	Brass nickel, silver plated	14.48
T32 Pkg. 1000	.093	Brass nickel, silver plated	106.79
T32-1 Pkg. 10	.062	Brass nickel, silver plated	1.97
T32-1 Pkg. 100	.062	Brass nickel, silver plated	14.48
T32-1 Pkg. 1000	.062	Brass nickel, silver plated	106.79
T42-1 Pkg. 100	.042	Beryl. copper, tintilate plated	2.01
T42-1 Pkg. 1000	.042	Beryl. copper, tintilate plated	12.90
T44 Pkg. 100	.042	Phosphor bronze, tintilate plated	2.28
T44 Pkg. 1000	.042	Phosphor bronze, tintilate plated	19.10
A13	.....	Insertion tool for T44 type	1.86
P91A	.....	Insertion tool for T28 type	1.96
P92A	.....	Insertion tool for T30 type	.67
P122B	.....	Insertion tool for T9.4 type	1.73
P136	.....	Insertion tool for T32 type	2.26
P149	.....	Insertion tool for T42 type	2.03

*Fits .025" square or .042" dia. hole.

PHOTORESIST ETCHED CIRCUIT KITS

Designed to produce one or more sharply detailed etched circuit boards from an easily made master positive, in one hour. Positive artwork is used; no negative to be made, no photography required. Simply apply transfer patterns to Mylar* film for master positive, place on pre-photosensitized Vectorbord® and expose to suitable light source. High speed etching with virtually no under-cutting is provided by vigorously shaking board and chemicals in closable plastic box. *Reg. DuPont TM.

Vector Kit No. 32XA—Contains five copper clad, photoresist coated boards; two adhesive-backed artwork sheets with IC and transistor patterns; "rub-on" pattern for pads, lines, tabs; plastic box; etchant; developer; glass plate; 3 sheets Mylar; two sheets grid paper; tools. Net Each Kit.....**$26.20**

Vector Kit No. 32X—Contains two boards; cut and peel sheet; transfer patterns; developer; etchant; touch-up resist; Mylar sheet; developing tray; glass plate. Net Each Kit.....**$9.40**

EXPERIMENTERS' ETCHED CIRCUIT KITS

Permits making quick, easy etched circuits without fancy art work, negatives or long waiting. Low cost, uncomplicated preliminary circuits can be made at any desk at a low cost. Contains everything needed, except hot water. Simply sketch the circuit on layout paper grid; apply etch resist on copper-clad board using resist ink or tape; place board in plastic bag; and, add hot water—in 45 minutes the circuit is ready to be washed and used. Board can be cut, drilled or punched as needed.

Vector Kit No. 27X—With two XXXP phenolic boards, 4½" x 6½", copper clad on one side—one with .062" holes on 0.2" centers, one unpunched; 1 sheet resist circles; 1 sheet resist tape strips; 2 bags of etchant; resist ink; 3 sheets 8½" x 11" layout paper; and full instructions. Net Each Kit.....**$8.38**

Vector Kit No. 27XA—Similar to 27X, except built around "Vectoresist", rub-on transfer resist. Simply apply resist pattern to board by rubbing back of 10" x 15" sheet having assortment of varying width lines, circles, dots and connector pattern with three groups of 21, 22 and 22 contacts spaced .156" on centers. Boards, etchant same as 27X. Net Each Kit.....**$8.38**

EXPERIMENTERS' INTEGRATED CIRCUIT KITS

Designed for fast, easy hookup of nearly all IC packages and/or discrete components. Mounting surface is a pre-punched Micro-Vectorbord® with .042" dia. holes on 0.1" grid pattern, supported by 2" high extruded aluminum Frame-Loc rails.

Vector Kit No. 29X—Includes 4.5" x 13.9" P pattern board and frame plus 14- and 16-pin DIP sockets, TO-5 sockets, transistor sockets, flatpack adapter plates, T42-1 ZIP terminals, K24C inboard pins, adapter wafers, "Daisy Chain" patchboards, DIP extractor tool, P149A terminal insertion tool, bus strips, layout paper, wire, hardware. Net Each Kit.....**$72.65**

Vector Kit No. 30X—Breadboard kit includes 8½" x 4½" P pattern board plus bus strips, 100 T42-1 Micro-Klip terminals and P149 installation tool, 50 K32 "J" terminals, two sheets grid layout paper, adhesive to mount DIP sockets, bare and insulated hookup wire. Net Each Kit.....**$13.05**

Vector Kit No. 31X—Includes 4½" x 17" board with all hardware in 30X kit plus 50 K24C inboard pins, two B20F pot and switch mounting brackets, screws, lockwashers and nuts, six sheets of grid layout paper. Net Each Kit.....**$21.32**

Vector Kit No. 30XA—Includes 8½" x 4½" board, 100 T42-1 Micro-Klip terminals and tool. Net Each Kit.....**$5.51**

EXPERIMENTERS' CHASSIS KITS

Save set-up time on experimental circuitry. Chassis, punched boards and solderless clips for quick set-up of circuits with simple hand tools. Some kits also permit soldering for permanent use.

Vector Kit No. 25X—Punched phenolic deck 8½" x 17" x 1/16" on wood frame has .093" holes spaced .265" on grid. Employs T30N-2 spring clip for quick, solderless connection; clip holds up to 6 leads with low contact resistance. With tube and transistor sockets. See parts list, below, for kit contents. Net Each Kit...**$24.78**

Vector Kit No. 22X—Punched phenolic deck 4 11/16" x 8½" x 1/16" mounted on aluminum channels. Employs T9.4 push-in terminals for soldered component connection. Transistor sockets and flexible array of parts supplied (see listing, below) for widest applications. Net Each Kit.....**$13.77**

Vector Kit No. 22XA—Professional size version of 22X. Extruded aluminum Frame-Loc chassis, 17" x 8½" x 2"; Vectorbord deck with 1/10" holes on .265" centers. Eight transistor sockets, 124 Zip push-in terminals, 100 springclips, 18 U-clips, 14 patchcords, etc. (Contents not listed below). Net Each Kit.....**$31.92**

Vector Kit No. 21X—Same as 22X, but board 4 11/16" x 17" x 1/16" and with tube sockets. See listing, below, for parts supplied. Net Each Kit.....**$19.52**

Vector Kit No. 20X—Same as 22X, but supplied with tube sockets only. See parts listing, below, for contents. Net Each Kit..**$7.65**

KIT PARTS AND REPLACEMENT PRICES

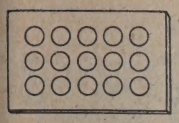
Vector Number	Description	Qty. in Kit No. 20X	21X	22X	25X	Net Each
32AA18	4 1/16"x8½" phen. board	1	....	1	....	$1.05
64AA18	4 1/16"x17" phen. board	....	1	....	....	2.03
64AA32	8½"x17" phen. board	....	....	....	1	3.47
.....	Random "A" Vectorbords	....	2	2	2	.....
SR2-85-093	8½"x2" chassis rails, pair	1	....	1	1	2.51
SR2-48-093	Same, 4.8"x2", pair	1	1	1	....	1.91
SR2-170-093	Same, 17"x2", pair	....	1	....	1	4.19
BR50	Corner bracket for rails	18	18	18	18	1.12§
SC4-2	Self-tap rail screws	8	8	8	8	1.89§
RA-2	Power transistor socket	....	2	2	2	.14
RA4.5	Univ. transistor socket	....	4	6	....	.44
RA4.51	Same, with pigtails	....	....	....	4	.78
R72J	7-pin min. socket	3	3	....	3	.57
R92J	9-pin socket	3	3	....	3	.91
T9.4	Push-in solder terminal	75	100	75	100	1.74#
T30N-2	Push-in solderless term.	20	50	20	90	9.62#
T32A	Side-entry spring clip	....	....	....	10	13.71#
T64	Spring for T30N-2	....	18	12	18	3.58§
T57	.20"x16" punched bus	....	3	....	3	2.73†
T58	.20"x8" punched bus	2	3	....	....	1.68†
*1507/.313	¼" O.D. x .313" spacer	6	....	....	6	.06
*1513/.500	Same, .500" lg.	6	6	....	6	.06
*1114/.406	7/16" O.D. x 11/16" spacer	....	16	16	16	.06
^07/.750	2-56x¾" screws, rd. hd.	6	18	15	....	1.58§
^01/.250	2-56x¼" screws, rd. hd.	6	....	....	10	1.58§
^14/.875	2-56x⅞" screws, flat hd.	....	....	....	24	1.58§
I09/.313	#4x5/16" self-tap rd. hd. scr.	12	16	15	16	1.58§
I30/.750	Same, ¾" lg.	6	12	....	12	2.75§
NT-4-1	#4 sheet metal nuts	....	....	....	12	1.20‡
NT-2-1	2-56 thd. steel nuts	12	18	24	36	1.20‡
HD2.1	Term. retainer clip	....	10	10	10	1.68§
520	Wafer for 7-pin socket	....	....	....	3	.20
515	Wafer for 8-pin socket	....	....	....	2	.23
516	Wafer for 9-pin socket	....	....	....	3	.21
P92A	Install tool for T30N-2	1	1	1	1	.67
P122B	Same, but for T9.4 term.	....	1	....	1	1.73
2323A-20/5	50-ft. #20 bare tinned wire	....	1	1	1	1.55
2323A-20/6	20-ft. #20 insul. wire	....	1	1	1	.86
0079-02/5	Plastic small parts box	1	1	1	2	.82
R173A-1	"A" 8½"x17" layout paper	....	3	....	3	2.63§
R173A	Same, 8½"x11"	3	....	3	....	1.72§
B20F	L-type switch, pot. bkts.	....	2	2	2	.95*
B20G	Same, Z-type	....	....	2	2	1.20*
B25	½"x⅝"x1/16" Z-bracket	....	6	4	4	95†
R393A-1	Number/letter transfers	....	....	....	1	2.65

Package of: *4; †10; ‡25; §50; #100. **Add Prefix When Ordering:** *0865-(e.g., **0865-1507/.313**); ^0111-221-; *0111-211-; I0111-424-

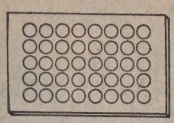
QUANTITY PRICES AVAILABLE ON REQUEST

Vector Boards and Cases

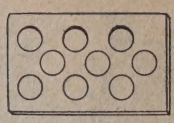
VECTORBORD



Patterns A, P



Pattern M



Pattern G

VECTORBORD® PUNCHED TERMINAL BOARD

Available in tan XXXP phenolic (MIL-P-3115B), ivory epoxy paper (MIL-P-22324) or G-10 epoxy glass (MIL-P-18177), with prepunched holes for breadboards and prototypes. May be sawed, drilled or punched. Copper clad types (2 oz.) may be etched. **Pattern "A":** 0.091″ holes on 0.265″ centers. **Pattern "F":** 0.062″ holes on 0.200″ centers. **Pattern "G":** 0.062″ holes on 0.200″ centers, staggered. **Pattern "B":** .062″ holes on 0.188″ centers.

Vector No.	Pattern	Size, In.	No. of Holes	Net Each
XXXP PHENOLIC				
32A9	A	8.51 x 2.41 x 1/16	32 x 9	$0.64
32AA9	A	8.51 x 2.41 x 3/32	32 x 9	.74
32AA18	A	8.51 x 4.80 x 3/32	32 x 18	1.05
42F22C1	F*	8.51 x 4.5 x 1/16	42 x 22	1.30
42F22C2	F†	8.51 x 4.5 x 1/16	42 x 22	1.72
45B30	B	8.51 x 5.69 x 1/16	45 x 30	1.04
90B30	B	16.97 x 5.69 x 1/16	90 x 30	2.28
64A18	A	16.99 x 4.80 x 1/16	64 x 18	1.58
64AA18	A	16.99 x 4.80 x 3/32	64 x 18	2.03
64AA32	A	16.99 x 8.51 x 3/32	64 x 32	3.47
EPOXY PAPER				
32AA18EP	A	8.51 x 4.80 x 3/32	32 x 18	$1.98
64AA18EP	A	16.99 x 4.80 x 3/32	64 x 18	3.70
64AA32EP	A	16.99 x 8.51 x 3/32	64 x 32	6.54
85F24EP‡	F	16.99 x 4.80 x 1/16	85 x 23	2.74
85G24EP	G	16.99 x 4.80 x 1/16	2(85 x 23)	2.74
85G42EP	G	16.99 x 8.51 x 1/16	2(85 x 42)	4.75
EPOXY GLASS				
32A18WE	A	8.51 x 4.80 x 1/16	32 x 18	$2.39
42G22WEC1	G*	8.5 x 4.5 x 1/16	2(42 x 22)	3.19
42G22WEC2	G†	8.5 x 4.5 x 1/16	2(42 x 22)	3.49
42G24WE	G	8.51 x 4.8 x 1/16	2(42 x 23)	2.37
64A18WE	A	16.99 x 4.80 x 1/16	64 x 18	4.26
85F42WEC1	F*	16.99 x 8.51 x 1/16	85 x 42	9.98
85G24WE	G	16.99 x 4.8 x 1/16	2(85 x 23)	4.76

*Copper clad, 1 side. †Copper clad, 2 sides. ‡Irregular borders.

MICRO-VECTORBORD® PUNCHED INSULATING BOARD

Pre-punched epoxy glass or epoxy paper insulating board in choice of 1/32″ or 1/16″ thickness. P pattern is ideal for dual-in-line circuit packages, sockets and other microminiature modules. EP type meets MIL-P-22324. Epoxy glass meets MIL-P-18177. C1 types have 2 oz. copper one side; C2 has 2 oz. copper two sides. **Pattern "P":** Has .042″ dia. holes on 0.1″ grid. **Pattern "M":** .025″ dia. holes on .05″ grid. **Other sizes and thicknesses available on request.**

Vector Number	Pattern	Size, Inches W. x L. x Th.	No. of Holes	Net Each, Lots of 1-19	20-99	100-199
59P19-032	P	2 x 6 x 1/32	59 x 19	$ 1.03	$ 0.92	$ 0.87
59P44-032	P	4 1/2 x 6 x 1/32	59 x 44	1.86	1.68	1.56
64P44-062EP	P	4 1/2 x 6 1/2 x 1/16	64 x 44	1.95	1.75	1.64
84P44-062EP	P	4 1/2 x 8 1/2 x 1/16	84 x 44	2.43	2.18	1.70
169P44-062	P	4 1/2 x 17 x 1/16	169 x 44	5.04	4.53	4.23
169P44-062EP	P	4 1/2 x 17 x 1/16	169 x 44	4.42	3.99	3.72
169P84-062	P	8 1/2 x 17 x 1/16	169 x 84	9.23	8.26	7.75
169P44-062C1	P	4 1/2 x 17 x 1/16	169 x 44	12.68	11.41	10.65
169P84-062C2	P	8 1/2 x 17 x 1/16	169 x 84	13.51	12.16	11.35
76M38-032	M	2 x 4 x 1/32	76 x 38	1.12	1.01	.95
336M76-032C2	M	4 x 17 x 1/32	336 x 17	9.00	8.11	7.56

BUS STRIP

Prepunched narrow brass tinned strip mounts to prepunched boards with Zip push-in terminals or screws.

Vector No.	Length	Description	Net, Pkg. 10
T57	16″	.093″ holes spaced .265″	$2.73
T58	8″	.093″ holes spaced .265″	1.68
T104	17″	.062″ holes spaced .2″	1.84
T107	14″	.042″ holes spaced .1″	3.64

FLAT PACK IC ADAPTERS

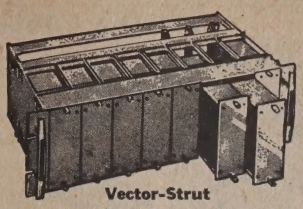
Epoxy paper wafer (1/16″) with copper etched pattern on .05″ spacing. Provide easy mounting of 14-pin flat pack IC's to P pattern Micro-Vectorbord. Micro-Klip terminals.

Vector No.	Description	Net Each
FPA-14	Pkg. of four wafers, 1″ x 1.6″	$2.43
FPA-14-1	Single wafer, 4.8″ x 4.5″; 12 pads	3.89

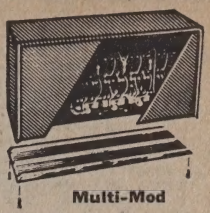
TUBE BASE SHIELDS

For mounting above socket as base for conventional bayonet type tube shields. **S9.17,** commercial type. No. **S7.22** and **S9.22** are military.

Vector No. S7.22—7-pin, nickel-plated brass. Net Each. **$0.24**
Vector No. S9.17—9-pin, cadmium iridited steel. Net Ea... .24
Vector No. S9.22—9-pin, nickel-plated brass. Net Each.... .42



Vector-Strut



Multi-Mod

VECTOR-STRUT CAGES

Adjustable aluminum frames mount in 19″ racks and accommodate "EFP" extended front panel cases (listed below).

Vector No. CA-52-HE-89 Cage Kit—5 1/4″ high with 9″ long sidewalls, cross members (triple T struts) and brackets, plus necessary assembly hardware. Case guides and EFP modules are ordered separately. Net Each..... **$22.98**

Vector No. CMG-7 Guide Kit—Case guides and hardware to mount eight 2″ wide modules in above. Net Each..... **$18.27**

Vector No. CMG-4 Guide Kit—Case guides and hardware to mount ten 1.6″ wide modules. Net Each..... **$21.17**

Vector No. CMA-3-20 Cage—Completely assembled, for eight 2″ wide modules. Consists of CA-52-HE-89 and CMG-7 kits above, assembled. Net Each..... **$56.87**

Vector No. CMA-3-16 Cage—Completely assembled, for ten 1.6″ wide modules. Net Each..... **$61.74**

Vector No. EFP-204-6.6 Module—Aluminum module case, 2″ wide, fits CMA-3-20 cage above (or CA-52-HE-89 with CMG-7 kit). Accepts 4 1/2″ x 6 1/2″ circuit cards completely inside, in nine extruded grooves. Slide-out side covers for easy access, front and rear panels. Net Each..... **$7.08**

Vector No. EFP-164-6.6 Module—As above, but 1.6″ wide for CMA-3-16 cage; six grooves. Net Each..... **$6.88**

Vector-Strut Cages and EFP modules are available in many other sizes; write for information and prices.

MULTI-MOD CASES

Sleek and sturdy aluminum cases have .075″ wide slots on .150″ centers across case width for screw-free mounting of circuit cards or shielding panels. Easily removable fourth side permits side cover to slide off for quick access. Clear anodized; colors available.

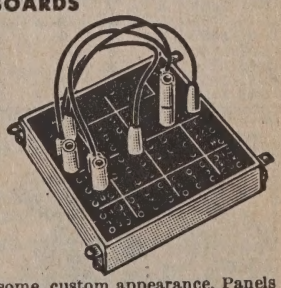
Vector No.	Size, Inches Width	Length	Height	For Circuit Card Size, In.	Net Each
W16-12-12B	1.6	1.21	1.21	1.10 x 1.10	$3.51
W16-31-31B	1.6	3.10	3.10	2.98 x 2.98	3.55
W20-15-15B	2.0	1.51	1.51	1.40 x 1.40	4.45
W20-28-46B	2.0	2.85	4.61	2.73 x 4.50	3.78
W20-66-46B	2.0	6.61	4.61	4.50 x 6.50	4.73
W30-66-46B	3.0	6.61	4.61	4.50 x 6.50	5.75
W30-86-46B	3.0	8.61	4.61	4.50 x 8.50	6.42
W45-66-46B	4.5	6.61	4.61	4.50 x 6.50	7.52
W45-86-46B	4.5	8.61	4.61	4.50 x 8.50	8.49
W45-100-46B	4.5	10.00	4.61	4.50 x 9.88	9.94
FT-3	Rubber bumper feet (package of 8)				.87

VECTOR-PAK CASES

Extruded aluminum cases designed to accommodate cards and be used as a plug-in unit. Removable base plate is flat .062″ stock; may be slotted to pass circuit board plug tips. Sides slide open without removing base. Brushed satin finish.

Vector No.	Size, Inches	Max. Card Size	Net Each
HF20-46-62/1	2 x 4.62 x 6.21	4 1/2″ x 6″	$5.50
HF20-31-42/1	2 x 3.12 x 4.21	3″ x 4″	4.68

PATCHBOARDS



Simple reliable units for single conductor patching on computers, control and test panels. Contacts are spaced on .265 centers and accept .090 diameter patchcords listed below. Reliable low resistance contacts (under .001 ohms) are beryllium copper nickel-plated and gold flashed with two holes for soldered leads. Solderless slip-on contacts (listed below) permit solderless connections to back. Alpha-numeric numbering supplied as standard on all units with letters running horizontally and numbers vertically, front and back. New aluminum extrusion frames all units for handsome, custom appearance. Panels are black with white letters and numbers. Mounting brackets furnished with all units.

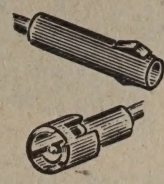
Vector No.	Description	Net Each
PB110-2	10 Contacts 2.985 x .600 x 1″‡	$ 5.89
PB210-2	20 Contacts 2.985 x .865 x 1″‡	6.16
PB510-2	50 Contacts 2.985 x 1.660 x 1″	8.93
PB1010-2	100 Contacts 2.985 x 2.985 x 1″	15.00
PB1020-2	200 Contacts 5.635 x 2.985 x 1″	27.14
PB1520-2	300 Contacts 5.635 x 4.310 x 1″	40.68
K2.02-1	Jumper (shorting plug)	4.66*
K2.06	6″ Patchcord, black	4.20*
K2.09	9″ Patchcord, yellow	4.48*
K2.15	15″ Patchcord, blue	4.85*
1723/1	Solderless slip-on contact	66.86†
K9.06	6″ Cord, piggy back ea. end, black	1.63
K9.09	9″ Cord, piggy back ea. end, yellow	1.65
K9.15	15″ Cord, piggy back ea. end, blue	1.71

Net per package of: *25; †1000. ‡Two brackets; others four.

QUANTITY PRICES AVAILABLE ON REQUEST

NYLON CABLE CONNECTORS

Highly reliable, versatile connectors rated 250 volts per circuit. Nylon housings are available in miniature size for .062″ pin terminals, or standard size for .093″ pin terminals (supplied less terminals). Ideal for use in business machines, appliances, communications, instrumentation, and other demanding applications. Available with integrally molded ears for easy panel mounting. All types (except single circuit) are polarized. Both male and female pin terminals of the same mating diameters can be intermixed in the same housing. Terminals can be extracted and easily replaced, using ejector tools. Housings are UL Recognized.



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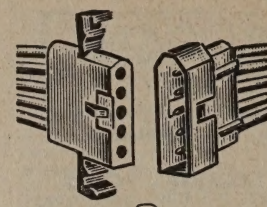
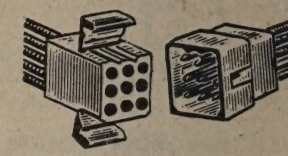


(B)



(C)

MINIATURE NYLON PLUG HOUSINGS

Accept .062″ pin terminals, listed at right.

Waldom/ Molex Number	Fig.	No.of Cir-cuits	Amps per Circ.	Std. Pkg. Qty.	Net/ Pkg.	Net per 100 100-499	500-999	1000 Up
03-06-2011	A	1	5	10	$1.00	$ 6.90	$ 4.75	$ 3.70
03-06-2031	B	3	5*	10	1.70	11.60	8.60	6.15
03-06-2041	B	4	5*	10	3.85	25.80	19.20	13.35
03-06-2054	B	5	5*	5	1.25	17.15	12.70	9.20
03-06-2062	C	6	5*	5	1.20	16.45	11.95	9.00
03-06-2081	B	8	5	5	1.00	14.05	9.75	7.55
03-06-2091	C	9	5*	5	1.30	17.75	12.70	9.65
03-06-2121	C	12	5*	5	1.35	18.50	13.70	10.10
03-06-2151	C	15	5*	5	2.20	30.00	21.00	16.25
03-06-2241	C	24	4*	5	3.30	44.60	31.00	24.00
03-06-2361	C	36	4*	5	3.75	50.40	34.95	27.05

STANDARD NYLON PLUG HOUSINGS

Accept .093″ terminals, listed at right.

03-09-2011	A	1	12	10	$1.00	$ 6.75	$ 4.65	$ 3.60
03-09-2021	B	2	12*	10	1.95	13.30	9.85	6.80
03-09-2031	B	3	12*	10	1.70	11.50	7.95	6.15
03-09-2041	B	4	9*	10	2.40	16.05	11.10	8.60
03-09-2052	B	5	9	5	1.40	18.85	13.15	10.25
03-09-2061	C	6	9*	5	1.55	20.75	13.75	10.50
03-09-2091	C	9	9*	5	1.65	22.20	15.40	11.90
03-09-2121	C	12	7.5	5	1.65	22.55	15.70	12.15
03-09-2151	C	15	7.5	5	2.60	34.50	24.10	18.60

*With integrally molded mounting ears.

MINIATURE NYLON RECEPTACLE HOUSINGS

Accept .062″ terminals. With holding tabs and mounting ears.

03-06-1011	A	1	5†	10	$0.85	$ 5.95	$ 4.10	$ 3.15
03-06-1031	B	3	5	10	1.95	13.00	9.65	7.05
03-06-1041	B	4	5	10	3.80	25.50	18.90	13.10
03-06-1055	B	5	5	5	1.65	22.15	16.15	11.80
03-06-1061	C	6	5	5	1.40	19.15	13.50	10.40
03-06-1081	B	8	5	5	1.25	17.25	12.00	9.30
03-06-1091	C	9	5	5	1.50	20.30	14.40	11.05
03-06-1121	C	12	5	5	1.55	21.20	15.45	11.60
03-06-1151	C	15	5	5	2.55	34.25	23.85	18.50
03-06-1241	C	24	5	5	3.45	46.80	32.50	25.20
03-06-1361	C	36	4	5	3.90	52.65	36.50	28.20

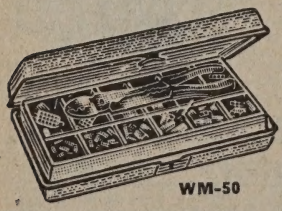
STANDARD NYLON RECEPTACLE HOUSINGS

Accept .093″ terminals. With holding tabs and mounting ears.

03-09-1011	A	1	12†	10	$0.85	$ 5.85	$ 4.05	$ 3.10
03-09-1021	B	2	12	10	2.00	13.40	9.95	6.90
03-09-1031	B	3	12	10	1.70	11.60	8.05	6.25
03-09-1041	B	4	9	10	2.45	16.40	11.35	8.75
03-09-1052	B	5	9†	5	1.75	23.85	17.10	12.90
03-09-1061	C	6	9	5	1.60	21.75	14.40	10.90
03-09-1091	C	9	9	5	1.70	23.10	15.60	12.05
03-09-1121	C	12	7.5	5	1.85	25.20	17.50	13.60
03-09-1151	C	15	7.5	5	2.95	39.40	27.30	21.05

†Holding tabs only.

CABLE CONNECTOR DESIGNER KITS



WM-50

Ideal for the creative designer, repairman and experimenter. Eliminates need of searching for proper connectors or tools; everything under one lid, covering all circuit capacities with male and female housings, terminals and crimping tool. Separate compartments for connector elements, numbered and described for easy part reordering. **Lightweight, unbreakable case** has snap-lock to avoid spills and mix-ups.

Manual, prototype crimping tool is specially balanced and weighted for easy operation; made of hardened steel, it provides excellent, uniform crimps every time. Also strips and cuts wire. **An extractor tool** is also provided with each crimping tool to assist in circuit changes or corrections.

Waldom No. WM-50 Designer Kit—Same as WM-72, but parts cover from single circuit to 15-circuit designs (250 V and up to 12 amps per circuit); and, totals 45 complete connectors only. All have pin terminal size 0.093″ dia. With crimping tool, pin terminal ejector tool and case. Net Each..... **$29.95**

Waldom No. WM-72 Designer Kit—Contains all parts needed to assemble male and female connectors from single circuit to 36-circuit designs (250 V and up to 5 amps per circuit); totals 56 connectors. All have pin terminal size 0.062″ dia. With crimping tool, pin terminal ejector tool and case. Net Each..... **$34.95**

HOUSING DIMENSIONS

MINIATURE HOUSINGS FOR .062″ TERMINALS

Plugs are .750″ deep; receptacles, .781″ deep.

Waldom/ Molex No. 03-06-	Plug Dimensions Overall W.	Overall H.	Mounting Hole, In.	Receptacle Dimensions Overall W.	Overall H.	Mounting Hole, In.
2011, 1011	.296″	dia.	.....	.203″	dia.	.....
2031, 1031	.281″	.578″	.318 x .754	.203″	.484″	.265 x .650
2041, 1041	.296″	.734″	.....	.203″	.625″	.....
2054, 1055	.296″	.875″	.....	.203″	.781″	.265 x .940
2062, 1061	.578″	.453″	.....	.484″	.343″	.552 x .505
2081, 1081	.312″	1.593″	.....	.310″	1.500″	.330 x 1.715
2091, 1091	.578″	.578″	.615 x .752	.531″	.484″	.552 x .650
2121, 1121	.578″	.718″	.614 x .903	.531″	.625″	.563 x .795
2151, 1151	.593″	.859″	.614 x 1.042	.531″	.765″	.563 x .934
2241, 1241	.750″	.930″	.765 x 1.182	.750″	.920″	.715 x 1.0719
2361, 1361	.812″	1.640″	.825 x 1.795	.859″	1.515″	.707 x 1.677

STANDARD HOUSINGS FOR .093″ TERMINALS

Plugs are .968″ deep; receptacles, 1.000″ deep except 03-09-1031, 03-09-1061 thru 03-09-1151, 1.031″ deep.

Waldom/ Molex No. 03-09-	Plug Dimensions Overall W.	Overall H.	Mounting Hole, In.	Receptacle Dimensions Overall W.	Overall H.	Mounting Hole, In.
2011, 1011	.358″	dia.	.....	.234″	dia.	.....
2021, 1021	.352″	.640″	.800 x .375	.250″	.531″	.705 x .312
2031, 1031	.338″	.773″	.933 x .375	.234″	.671″	.840 x .312
2041, 1041	.338″	.968″	1.131 x .375	.236″	.875″	1.038 x .312
2052, 1052	.343″	1.171″	.....	.234″	1.062″	.....
2061, 1061	.640″	.531″	.750 x .695	.632″	.437″	.718 x .600
2091, 1091	.734″	.756″	.937 x .725	.625″	.671″	.828 x .725
2121, 1121	.734″	.975″	1.155 x .760	.640″	.870″	1.050 x .655
2151, 1151	.734″	1.169″	1.343 x .760	.632″	1.067″	1.240 x .655

PIN TERMINALS FOR NYLON HOUSINGS

Spring tempered tin-plated brass. .093″ dia. types fit standard housings; .062″ dia. types(*) fit miniature housings. Std. pkg., 100. Style **C** in table below is for crimp, **S** for solder, **PC** for printed circuit and **BC** for bead chain.

Waldom/Molex Number Male	Female	Style	For Wire Size	Net per 100	Net per 1000 1000-3999	4000-11999	12000 Up
02-09-2103	02-09-1103	C	14–18	$4.20	$26.60	$19.50	$15.30
02-09-2118	02-09-1118	C	18–24	4.20	26.60	19.50	15.30
02-09-2143	02-09-1143	C	22–30	4.20	26.60	19.50	15.30
					1000-4999	5000-9999	10000 Up
02-09-2133	02-09-1133	PC	.....	$3.25	$22.50	$17.35	$13.90
R-93-12	.....	BC	.....	1.80	11.00	7.70	6.30
.....	M-93-102	BC	.....	1.80	11.15	7.75	6.95
R-93-31	.....	BC	.....	1.80	11.40	7.90	6.45
.....	M-118-95A	BC	.....	1.85	11.80	8.20	6.70
R-62-3	.....	BC*	.....	1.80	11.50	8.10	6.65
R-62-4	.....	BC*	.....	1.85	11.90	8.45	6.90
R-62-5	.....	BC*	.....	1.80	11.50	8.10	6.65
					1000-2999	3000-5999	6000-11999
02-06-2103	02-06-1103	C*	18–22	$4.65	$40.25	$31.80	$19.20
02-06-2132	02-06-1132	C*	22–30	4.65	40.25	31.80	19.20
					4000-7999	8000 Up	
.....	02-08-1102	C	16–28	$4.60	$26.40	$21.10	.....
.....	02-05-1105	C*	18–22	4.00	24.80	18.45	.....

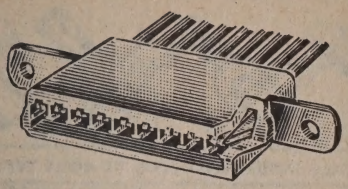
CRIMPING TOOLS

Waldom/ Molex Number	For Pin Size	Description	Net Each
HT-1919	.093″	Prototype hand tool for prototype use	$ 7.95
HT-1921	.062″	Prototype hand tool for prototype use	7.95
HTR-1031-C	.093″	Production hand tool with ratchet	75.00
HTR-2262	.062″	Production hand tool with ratchet	75.00
HT-2038	.093″	Deluxe ejector tool for extracting pins	6.70
HT-1010-2B2	.....	Replacement tip for HT-2038	2.50
HT-2285	.062″	Deluxe ejector tool for extracting pins	6.70
HT-1672-3	.....	Replacement tip for HT-2285	2.50
HT-2054	.093″	Econo-extractor tool for extracting pins	2.25
HT-2023	.062″	Econo-extractor tool for extracting pins	2.25
HT-1353	.093″	Insertion tool for inserting pins	7.50
HT-1807	.062″	Insertion tool for inserting pins	7.50

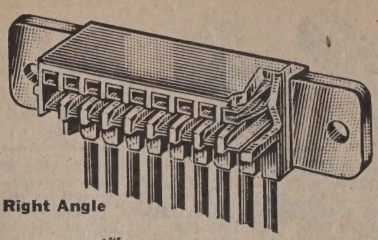
Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

1052X-75A

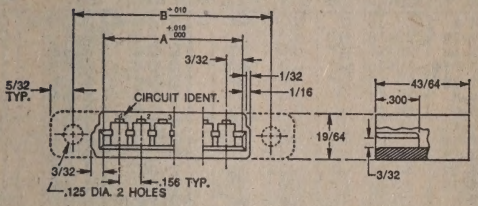
waldom / molex Connectors

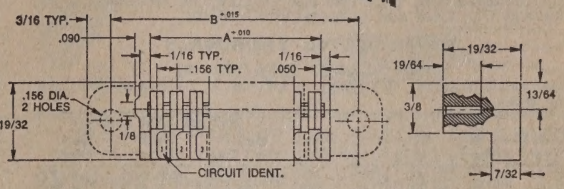


Straight-on



Right Angle





PC EDGE CONNECTORS

Straight-on: Edge connectors are available in 6, 9, 12, 15, 18, 21, 22 and 24 circuit configurations. Bifurcated terminals provide a really solid contact with excellent reliability. Connector can be slipped on and off, time after time, without any damage to the printed circuit. Use of polarizing key when necessary, guarantees positive polarity. Comes with or without mounting flange. **Right Angle:** Edge connectors are available in 6, 9, 12, 15, 18, 21 and 22 circuit configurations and offer all the advantages of "Straight-on" Series plus the added feature of mounting the printed circuit board at a right angle, requiring minimum space.

STRAIGHT-ON CONNECTORS

Waldom/ Molex Number	No. of Circuits	A In.	B* In.	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 100 100-499	Net per 100 500 Up
09-01-1061	6	0.966	.....	5	$2.00	$31.05	$23.00
09-01-2061	6	.....	1.392	5	2.00	31.05	23.00
09-01-1091	9	1.434	.....	5	2.05	31.95	23.65
09-01-2091	9	.....	1.860	5	2.05	31.95	23.65
09-01-1121	12	1.902	.....	5	2.10	32.85	24.35
09-01-2121	12	.....	2.328	5	2.10	32.85	24.35
09-01-1151	15	2.370	.....	5	2.20	33.75	25.00
09-01-2151	15	.....	2.796	5	2.20	33.75	25.00
09-01-1181	18	2.838	.....	5	2.25	34.65	25.65
09-01-2181	18	.....	3.264	5	2.25	34.65	25.65
09-01-1211	21	3.306	.....	5	2.30	35.55	26.35
09-01-2211	21	.....	3.732	5	2.30	35.55	26.35
09-01-1221	22	3.462	.....	5	2.35	35.85	26.55
09-01-2221	22	.....	3.888	5	2.35	35.85	26.55
09-01-1241	24	3.774	.....	5	2.40	36.05	26.70
09-01-2241	24	.....	4.200	5	2.40	36.05	26.70
15-04-0215	Polarizing Key			10	1.35	9.10	6.30

*With mounting flange. Flange 1¾4" from front and .070" thick.

TERMINALS

Waldom/ Molex Number	Wire Range	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 1000 2500-4999	Net per 1000 5000-9999	Net per 1000 10,000 Up
08-01-0102	18–24	100	$5.05	$32.10	$24.10	$19.10
08-01-0106	24–30	100	5.05	32.10	24.10	19.10

RIGHT ANGLE CONNECTORS

Waldom/ Molex Number	No. of Circuits	A In.	B* In.	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 100 100-499	Net per 100 500-999
09-02-1062	6†	0.882	.....	5	$2.75	$49.10	$36.40
09-02-2062	6†	.....	1.472	5	2.75	49.10	36.40
09-02-1092	9†	1.350	.....	5	2.80	50.00	37.00
09-02-2092	9	.....	1.940	5	2.80	50.00	37.00
09-02-1122	12†	1.818	.....	5	2.85	50.90	37.75
09-02-2122	12†	.....	2.408	5	2.85	50.90	37.75
09-02-1152	15†	2.286	.....	5	2.90	51.70	38.25
09-02-2152	15	.....	2.876	5	2.90	51.70	38.25
09-02-1182	18†	2.754	.....	5	2.95	52.55	38.95
09-02-2182	18	.....	3.344	5	2.95	52.55	38.95
09-02-1212	21†	3.222	.....	5	3.05	53.45	39.55
09-02-2212	21	.....	3.812	5	3.05	53.45	39.55
09-02-1222	22†	3.378	.....	5	3.10	53.65	39.70
09-02-2222	22	.....	3.968	5	3.10	53.65	39.70
15-04-0216	Polarizing Key			10	1.25	8.40	6.15

*With mounting flange. Flange .070" thick at the end. †Contact us for availability.

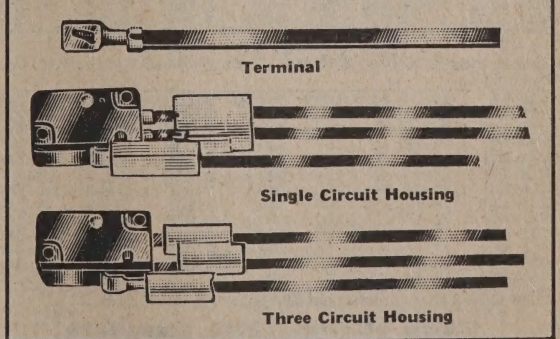
TERMINALS

Waldom/ Molex Number	Wire Range	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 1000 2500-4999	Net per 1000 5000-9999	Net per 1000 10,000 Up
08-30-0110	18–24	100	$6.35	$40.70	$30.65	$24.30
08-30-0104*	24–30	100				

*Not yet available.

MICRO SWITCH CONNECTORS, TERMINALS

Single and three circuit series nylon connectors offer low cost and especially the three circuit, a full proof method of making quick connections on micro type switches. Housing accepts crimp-on, snap-in quick disconnect female terminal type No. 05-06-0302, for 14–22 wire range of 05-06-0403 for 22–30 wire range, which fit a standard 3/16" male tab, .020" thick. Female quick disconnect terminals are vastly different than the conventional type female quick disconnects. Average insertion force of 2 per term is much lower and smoother, and does not force the switch out of proper adjustment. **Single Circuit:** Single circuit micro switch connector fits any standard 3/16" (.020") switch male tab. **Three Circuit:** Single circuit portion is a unique feature of the three-circuit micro switch connector. Purposely sprung to allow easy connections to all micro switches of various manufacturers as their tab locations do vary slightly.



SINGLE CIRCUIT NYLON HOUSING

Waldom/ Molex Number	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 100 100-499	Net per 100 500-999	Net per 100 1000 Up
06-02-3011	10	$0.85	$5.75	$4.00	$3.10

THREE CIRCUIT NYLON HOUSING

06-02-3031	5	$1.30	$18.20	$12.95	$10.25

TERMINALS

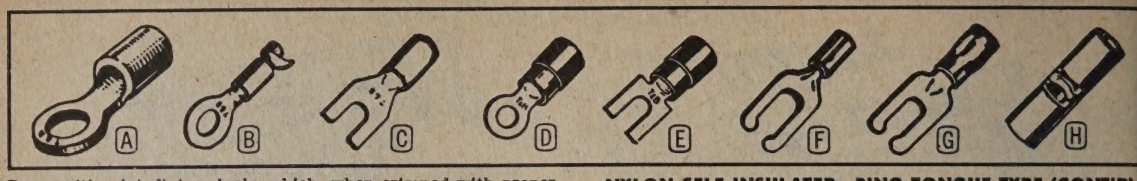
Waldom/ Molex Number	Wire Range	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 1000 1500-5999	Net per 1000 6000-11,999	Net per 1000 12,000 Up
05-06-0302	14–22	100	$5.50	$31.95	$26.40	$20.90
05-06-0403	22–30	100	5.50	31.95	26.40	20.90

PC EDGE AND MICRO SWITCH CONNECTOR TOOLS

Waldom/ Molex No.	Tool Description	For Use With	Net Each
HTR-2262	Manual pro-	PC Edge conn., Relay skt.	$75.00
HTR-2090	duction crimp	Micro Switch connectors	75.00
HT-1921	Prototype	PC Edge conn., Relay skt.	7.95
HT-1919	crimp	Micro Switch connectors	7.95
HT-1884	Extractor	Same as HTR-2262, -2090	1.75

Manufactured by Molex Products, these items are made available from electronic distributors through Waldom Electronics, Inc.

Thomas and Betts STA-KON® TERMINALS



Copper (tin-plated) terminals, which, when crimped with proper Sta-Kon tool, comprises a terminal with less resistance than an equal length of the conductor. Barrel serrated to increase grip and contact area. Insulated terminals color coded for wire size range identification. Wire size also stamped on terminals. Meet or exceed UL, CSA and military specifications.

UNINSULATED TERMINALS

RING TONGUE TYPE (FIG. A)

Install with WT1000, WT100M, WT111M, WT110M or WT130A hand tools.

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
A18-4	22–18	#4	100	500	$ 7.52	$5.88	$4.70
A18-6	22–18	#6	100	500	7.52	5.88	4.70
A18-8	22–18	#8	100	500	7.52	5.88	4.70
A18-10	22–18	#10	100	500	7.52	5.88	4.70
A18-14	22–18	¼″	100	500	10.08	7.88	6.30
A18-516	22–18	5/16″	100	500	10.08	7.88	6.30
A18-38	22–18	⅜″	100	500	10.08	7.88	6.30
B14-4	16–14	#4	100	500	7.52	5.88	4.70
B14-6	16–14	#6	100	500	7.52	5.88	4.70
B14-8	16–14	#8	100	500	7.52	5.88	4.70
B14-10	16–14	#10	100	500	7.52	5.88	4.70
B14-14	16–14	¼″	100	500	10.08	7.88	6.30
B14-516	16–14	5/16″	100	500	10.08	7.88	6.30
B14-38	16–14	⅜″	100	500	10.08	7.88	6.30
C10-6	12–10	#6	50	500	10.40	8.13	6.50
C10-8	12–10	#8	50	500	10.40	8.13	6.50
C10-10	12–10	#10	50	500	10.40	8.13	6.50
C10-14	12–10	¼″	50	500	11.84	9.25	7.40
C10-516	12–10	5/16″	50	500	11.84	9.25	7.40
C10-38	12–10	⅜″	50	500	11.84	9.25	7.40
Install with WT115A hand tool.							
D8-10	9, 8, 7	#10	25	500	$29.92	$23.38	$18.70
D8-14	9, 8, 7	¼″	25	500	29.92	23.38	18.70
D8-516	9, 8, 7	5/16″	25	500	29.92	23.38	18.70
D8-38	9, 8, 7	⅜″	25	500	29.92	23.38	18.70
E6-10	6, 5	#10	20	200	33.60	26.25	21.00
E6-14	6, 5	¼″	20	200	33.60	26.25	21.00
E6-516	6, 5	5/16″	20	200	33.60	26.25	21.00
E6-38	6, 5	⅜″	20	200	33.60	26.25	21.00
F4-10	4, 3	#10	20	200	43.84	34.25	27.40
F4-14	4, 3	¼″	20	200	43.84	34.25	27.40
F4-516	4, 3	5/16″	20	200	43.84	34.25	27.40
F4-38	4, 3	⅜″	20	200	43.84	34.25	27.40
G2-14	2, 1	¼″	10	100	84.48	66.00	52.80
G2-516	2, 1	5/16″	10	100	84.48	66.00	52.80
G2-38	2, 1	⅜″	10	100	84.48	66.00	52.80
H10-14†	1/0	¼″	10	100	91.36	71.38	57.10
J20-38†	2/0	⅜″	10	100	105.76	82.63	66.10
K30-38†	3/0	⅜″	5	50	124.32	97.13	77.70
L40-38†	4/0	⅜″	5	50	142.08	111.00	88.80
M250-38†	*	⅜″	5	50	164.80	128.75	103.00

*250MCM. †Install with WT117 hand tool only.

RING TONGUE WITH INSULATION GRIP (FIG. B)

Install with WT100, WT100M or WT110M hand tools.

B14-6G	16–14	#6	100	500	$10.08	$7.88	$6.30
B14-8G	16–14	#8	100	500	10.08	7.88	6.30
B14-10G	16–14	#10	100	500	10.08	7.88	6.30
B14-14G	16–14	¼″	100	500	11.84	9.25	7.40

FORK TONGUE TYPE (FIG. C)

Install with WT100M, WT111M, WT110M, WT130A or WT1000 hand tools.

A18-6F	22–18	#6	100	500	$ 7.52	$5.88	$4.70
A18-8F	22–18	#8	100	500	7.52	5.88	4.70
A18-10F	22–18	#10	100	500	7.52	5.88	4.70
A18-14F	22–18	¼″	100	500	10.08	7.88	6.30
B14-6F†	16–14	#6	100	500	7.52	5.88	4.70
B14-6FS*	16–14	#6	100	500	8.48	6.63	5.30
B14-8F†	16–14	#8	100	500	7.52	5.88	4.70
B14-10F†	16–14	#10	100	500	7.52	5.88	4.70
B14-14F†	16–14	¼″	100	500	10.08	7.88	6.30
C10-6F	12–10	#6	50	500	10.40	8.13	6.50
C10-8F	12–10	#8	50	500	10.40	8.13	6.50
C10-10F	12–10	#10	50	500	10.40	8.13	6.50
C10-14F	12–10	¼″	50	500	11.84	9.25	7.40

*Turned up toes. †Also available with insulation grip.

NYLON SELF-INSULATED TERMINALS

Types with prefix RZ install with WT462 hand tool; all others install with WT1000, WT100M or WT145C hand tools. Also available with expanded insulation grip.

RING TONGUE TYPE (FIG. D)

RZ22-2	26–22	#2	100	500	$17.28	$13.50	$10.80
RZ22-4	26–22	#4	100	500	17.28	13.50	10.80
RZ22-6	26–22	#6	100	500	17.28	13.50	10.80
RZ22-8	26–22	#8	100	500	17.28	13.50	10.80
RZ22-10	26–22	#10	100	500	17.28	13.50	10.80
RA18-4	22–16	#4	100	500	17.28	13.50	10.80
RA18-6	22–16	#6	100	500	17.28	13.50	10.80

NYLON SELF-INSULATED—RING TONGUE TYPE (CONT'D)

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
RA18-8	22–16	#8	100	500	$17.28	$13.50	$10.80
RA18-10	22–16	#10	100	500	17.28	13.50	10.80
RA18-14	22–16	¼″	100	500	19.04	14.88	11.90
RA18-516	22–16	5/16″	100	500	19.04	14.88	11.90
RA18-38	22–16	⅜″	100	500	19.04	14.88	11.90
RB14-4	18–14	#4	100	500	17.28	13.50	10.80
RB14-6	18–14	#6	100	500	17.28	13.50	10.80
RB14-8	18–14	#8	100	500	17.28	13.50	10.80
RB14-10	18–14	#10	100	500	17.28	13.50	10.80
RB14-14	18–14	¼″	100	500	19.04	14.88	11.90
RB14-516	18–14	5/16″	100	500	19.04	14.88	11.90
RB14-38	18–14	⅜″	100	500	19.04	14.88	11.90
RC10-6	12–10	#6	50	500	21.12	16.50	13.20
RC10-8	12–10	#8	50	500	21.12	16.50	13.20
RC10-10	12–10	#10	50	500	21.12	16.50	13.20
RC10-14	12–10	¼″	50	500	22.88	17.88	14.30
RC10-516	12–10	5/16″	50	500	22.88	17.88	14.30
RC10-38	12–10	⅜″	50	500	22.88	17.88	14.30

FORK TONGUE TYPE (FIG. E)

RA18-6F	22–16	#6	100	500	$17.28	$13.50	$10.80
RA18-8F	22–16	#8	100	500	17.28	13.50	10.80
RA18-10F	22–16	#10	100	500	17.28	13.50	10.80
RA18-14F	22–16	¼″	100	500	19.04	14.88	11.90
RB14-6F	18–14	#6	100	500	17.28	13.50	10.80
RB14-8F	18–14	#8	100	500	17.28	13.50	10.80
RB14-10F	18–14	#10	100	500	17.28	13.50	10.80
RB14-14F	18–14	¼″	100	500	19.04	14.88	11.90
RC10-6F	12–10	#6	50	500	21.12	16.50	13.20
RC10-8F	12–10	#8	50	500	21.12	16.50	13.20
RC10-10F	12–10	#10	50	500	21.12	16.50	13.20
RC10-14F	12–10	¼″	50	500	22.88	17.88	14.30

LOCKING SPADE TERMINALS

Goes on like fork tongue; stays on like ring tongue. Use WT110M, -111M, -130A, -100M, -1000 for non-insul. types; WT-445A hand tool for vinyl self-insul. Series RA and RB. WT-540 interchangeable die tool for Series: RA (5502 die), RB (5500 die), RC (5505 die), WT1000 and WT145C.

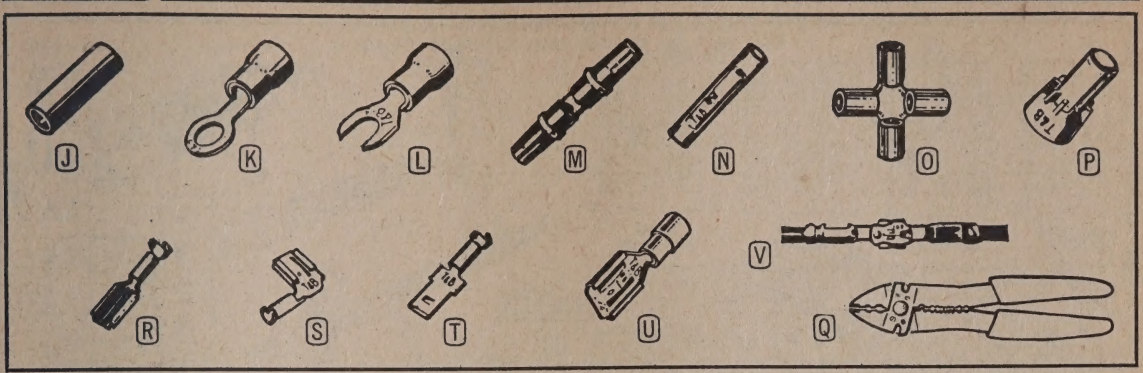
Non-insulated (Fig. F)

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
A18-6FL	22–16	#6	100	500	$ 8.64	$ 6.75	$5.40
A18-8FL	22–16	#8	100	500	8.64	6.75	5.40
A18-10FL	22–16	#10	100	500	8.64	6.75	5.40
B14-6FL	16–14	#6	100	500	8.64	6.75	5.40
B14-8FL	16–14	#8	100	500	8.64	6.75	5.40
B14-10FL	16–14	#10	100	500	8.64	6.75	5.40
C10-6FL	12–10	#6	50	500	11.84	9.25	7.40
C10-8FL	12–10	#8	50	500	11.84	9.25	7.40
C10-10FL	12–10	#10	50	500	11.84	9.25	7.40
C10-14FL	12–10	¼″	50	500	14.40	11.25	9.00
Vinyl self-insulated with insulation support (Fig. G)							
18RA-6FL	22–16	#6	100	500	$13.60	$10.63	$8.50
18RA-8FL	22–16	#8	100	500	13.60	10.63	8.50
18RA-10FL	22–16	#10	100	500	13.60	10.63	8.50
14RB-6FL	18–14	#6	100	500	13.60	10.63	8.50
14RB-8FL	18–14	#8	100	500	13.60	10.63	8.50
14RB-10FL	18–14	#10	100	500	13.60	10.63	8.50
10RC-6FL	12–10	#6	50	500	18.24	14.25	11.40
10RC-8FL	12–10	#8	50	500	18.24	14.25	11.40
10RC-10FL	12–10	#10	50	500	18.24	14.25	11.40
10RC-14FL	12–10	¼″	50	500	21.76	17.00	13.60
Vinyl self-insulated with expanded insulation support (Fig. G)							
18RA-6FLX	22–16	#6	100	500	$14.40	$11.25	$9.00
18RA-8FLX	22–16	#8	100	500	14.40	11.25	9.00
18RA-10FLX	22–16	#10	100	500	14.40	11.25	9.00
14RB-6FLX	18–14	#6	100	500	14.40	11.25	9.00
14RB-8FLX	18–14	#8	100	500	14.40	11.25	9.00
14RB-10FLX	18–14	#10	100	500	14.40	11.25	9.00
10RC-6FLX	12–10	#6	50	500	18.72	14.63	11.70
10RC-8FLX	12–10	#8	50	500	18.72	14.63	11.70
10RC-10FLX	12–10	#10	50	500	18.72	14.63	11.70
10RC-14FLX	12–10	¼″	50	500	22.88	17.88	14.30

UNINSULATED 2-WAY BUTT SPLICES (FIG. H)

T. & B. No.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
2A18*	22–18	100	500	$ 8.80	$ 6.88	$ 5.50
2B14*	16–14	100	500	8.80	6.88	5.50
2C10*	12–10	50	500	12.32	9.63	7.70
2D8†	9–8–7	25	250	30.08	23.50	18.80
2E6†	6–5	20	200	42.08	32.88	26.30
2F4†	4–3	15	150	59.84	46.75	37.40
2G21†	2–1	5	50	70.20	61.88	49.50

Install with hand tool: *WT100M, -110M, -111M, -130A, WT1000; †WT115A, -117.



UNINSULATED OVERLAP TYPE SPLICES (FIG. J)

T. & B. No.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
2A22-20‡	22-20	100	500	$ 7.52	$ 5.88	$ 4.70
2B18-16‡	18-16	100	500	7.84	6.13	4.90
2C14-12‡	14-12	50	500	10.40	8.13	6.50
2D10-9†	10-9	20	200	15.68	12.25	9.80
2E8-7†	8-7	20	200	26.08	20.38	16.30
2F6-5†	6-5	20	200	33.28	26.00	20.80
2G4-2†	4-2	10	100	40.80	31.88	25.50

Install with: †WT115A, WT117; ‡WT100M, WT110M, WT1000.

VINYL GRIP SERIES TERMINALS

Install with WT100M, WT145C or WT1000 hand tools. Also available with expanded insulation.

RING TONGUE TYPE (FIG. K)

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
18RA-4	22-16	#4	100	500	$12.16	$ 9.50	$7.60
18RA-6	22-16	#6	100	500	12.16	9.50	7.60
18RA-8	22-16	#8	100	500	12.16	9.50	7.60
18RA-10	22-16	#10	100	500	12.16	9.50	7.60
18RA-14	22-16	¼"	100	500	14.56	11.38	9.10
18RA-516	22-16	5/16"	100	500	14.56	11.38	9.10
18RA-38	22-16	3/8"	100	500	14.56	11.38	9.10
14RB-4	18-14	#4	100	500	12.16	9.50	7.60
14RB-6	18-14	#6	100	500	12.16	9.50	7.60
14RB-8	18-14	#8	100	500	12.16	9.50	7.60
14RB-10	18-14	#10	100	500	12.16	9.50	7.60
14RB-14	18-14	¼"	100	500	14.56	11.38	9.10
14RB-516	18-14	5/16"	100	500	14.56	11.38	9.10
14RB-38	18-14	3/8"	50	500	14.56	11.38	9.10
10RC-6	12-10	#6	50	500	15.68	12.25	9.80
10RC-8	12-10	#8	50	500	15.68	12.25	9.80
10RC-10	12-10	#10	50	500	15.68	12.25	9.80
10RC-14	12-10	¼"	50	500	18.56	14.50	11.60
10RC-516	12-10	5/16"	50	500	18.56	14.50	11.60
10RC-38	12-10	3/8"	50	500	18.56	14.50	11.60

FORK TONGUE TYPE (FIG. L)

18RA-6F	22-16	#6	100	500	$12.16	$ 9.50	$7.60
18RA-8F	22-16	#8	100	500	12.16	9.50	7.60
18RA-10F	22-16	#10	100	500	12.16	9.50	7.60
14RB-6F	18-14	#6	100	500	12.16	9.50	7.60
14RB-6FS*	18-14	#6	100	500	13.28	10.38	8.30
14RB-8F	18-14	#8	100	500	12.16	9.50	7.60
14RB-10F	18-14	#10	100	500	12.16	9.50	7.60
14RB-14F	18-14	¼"	100	500	14.56	11.38	9.10
10RC-6F	12-10	#6	100	500	15.68	12.25	9.80
10RC-8F	12-10	#8	100	500	15.68	12.25	9.80
10RC-10F	12-10	#10	50	500	15.68	12.25	9.80
10RC-14F	12-10	¼"	50	500	18.56	14.50	11.60

*Turned up toes.

SPLICES

NYLON INSULATED, BUTT TYPE, METAL GRIP (FIG. M)

Meets MIL specs. for aircraft/missile systems. Use WT145A, WT157N, WT462 tools.

T. & B. No.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
2RZZ	26-22	50	500	$65.12	$50.88	$40.70
2RAA	22-18	50	500	65.12	50.88	40.70
2RBB	16-14	50	500	65.12	50.88	40.70
2RCC	12-10	25	250	91.36	71.38	57.10

NYLON INSULATED, BUTT TYPE, VINYL GRIP (FIG. N)

Install with WT100M, WT105M or WT1000 hand tools.

2RA18†	22-18	100	500	$15.52	$12.13	$ 9.70
2RB14†	16-14	100	500	15.52	12.13	9.70
2RC10†	12-10	50	500	22.88	17.88	14.30
2A20*	22-20	100	500	12.16	9.50	7.60
2B16*	18-16	100	500	12.16	9.50	7.60
2C12*	14-12	50	500	17.44	13.63	10.90

*Overlap type (not illus.). †Install with WT145C or WT1000.

4-WAY UNINSULATED TYPE (FIG. O)

Install with WT100M, WT111M, WT110M, WT130A or WT1000.

4A18	22-18	50	500	$46.88	$36.63	$29.30
4B14	20-14	50	500	46.88	36.63	29.30
4C10	16-10	25	250	59.84	46.75	37.40

STA-KON WIRE JOINTS NYLON INSULATED

T. & B. No.	Holds Wires	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
RB44▲▲	2-#20, 2-#16	100	2000	$ 6.88	$5.38	$4.30
RC55*▲	3-#16, 3-#14	50	2000	10.56	8.25	6.60
RP12*▲	3-#14, 4-#12	100	1000	10.56	8.25	6.60
PT66M†§	2-#14, 3-#12	100	1000	8.00	6.25	5.00
PT70†*	2-#14, 3-#12	200	2000	3.68	2.88	2.30
PT70M†*	3-#18, 4-#12	200	2000	3.68	2.88	2.30
PT80‡*	2-#16, 4-#10	50	500	9.44	7.38	5.90

Install with tools: *WT100M; †WT111M, WT100M, WT161, WT1000; ‡WT100M, WT161, WT1000. §Two piece. *Uninsulated. ▲Fig. P.

SNAP-ON DISCONNECTS

Female fits on male tab (B14-250T) for fast, secure assembly. Insulation grip. RB14-250F nylon insulated. Male tabs for terminal board mtg. available.

T. & B. No.	Fig.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
B14-250F*	R	20-14	100	500	$10.72	$ 8.38	$6.70
B14-250A†	S	20-14	50	500	11.84	9.25	7.40
B14-250T‡	T	20-14	100	500	10.72	8.38	6.70
RB14-250F§	U	16-14	100	500	18.56	14.50	11.60

Install with tools: *WT100M, WT1000, WT100M; †WT110M, WT1000, WT111M; ‡WT110, WT1000; §WT100M, WT145A, WT1000.

WRISTLOCK DISCONNECT

Install with WT110M or WT1000 hand tool.

B14-D	V	20-14	50	500	$13.92	$10.88	$8.70
T209W	...	(Insul.)	25	250	8.32	6.50	5.20
RA18D*	...	22-18	50	500	28.16	22.00	17.60
RB14D*	...	16-14	50	500	28.16	22.00	17.60

*Nylon insulated; install with WT100M, WT1000 or WT145A.

TERMINAL ASSORTMENT KITS

T. & B. No. PK-1002 Kit—Includes 100 each: 18RA-6FL, 18RA-8FL, 14RB-8FL, 14RB-10FL, 2RA-18X, 2RB-14X; 50 each: 2RC-10X, 10RC-10FL locking fork terminals; one WT1000 tool. In steel case. Net Each..... **$76.00**

T. & B. No. PK-1003 Kit—Includes 100 each: 18RA-250F, 14RB-250F, 14RB-250T, A18-250, B14-250; 50 each: 10RC-250F, C10-250F, B14-250A disconnect terminals; one WT1000 tool. In steel case. Net Each..... **$76.00**

T. & B. No. PK-1001 Kit—Consists of WT1000 tool and steel case. Net Each..... **$16.00**

T. & B. No. PK-1000 Steel Case—Net Each..... **6.50**

T. & B. No. 20WJ Kit—Contains 100 B14-10, 50 C10-10 terminals and 200 PT70 wire joints plus one WT111M hand tool. Net Each..... **$23.00**

T. & B. No. 21WJ Kit—Contains 200 each of B14-10 terminals and PT70M wire joints; 100 each of C10-10, B14-10F and RB14-10 terminals; and 1 WT100M tool. Net Each..... **$54.00**

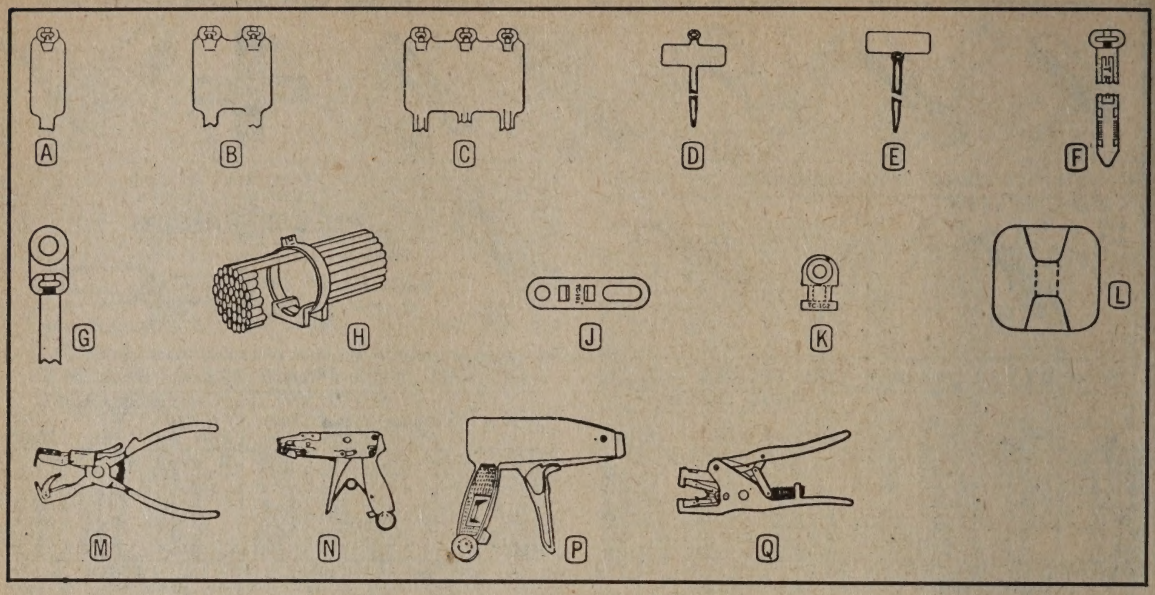
TERMINAL TOOLS

STA-KON® HAND TOOLS

T. & B. Number	For Use With Series	Net Each
WT1000	A, B, C, AB, PT, RA, RB, RC (Fig. Q)	$11.00
WT100M	A, B, C, AB, PT, RA, RB, RC	11.00
WT105M	RA, RB, RC splices except exp. insulation	11.00
WT161	A, B, C, PT	14.00
WT115A	D, E, F, G	50.00
WT111M	A, B, C, PT	9.00
WT110M	A, B, C	11.00
WT130A	22-10 wire for A, B and C	#
WT145A, C	RA, RB, RC, RAA, RBB, RCC	#
WT157N	2RZZ, 2RAA, 2RBB, 2RCC	#
WT445A	RA, RB	#
WT462	RZZ	#
WT540	Locking spade terminals	#

#Prices on application.

Thomas and Betts TY-RAP®, STA-KON® WIRE ACCESSORIES



TY-RAP® IDENTIFICATION TIES

Cable ties with unobstructed rectangular area for marking.

T. & B. No.	Fig.	Dia. Range, In.	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TY-546M	A	3/8–1 3/4	100	500	$18.24	$14.25	$11.40
TY-546MX*	A	3/8–1 3/4	100	500	20.00	15.63	12.50
TY-546MD	B	3/8–1 3/4	100	500	40.00	31.25	25.00
TY-546MT	C	3/8–1 3/4	100	500	68.64	53.63	42.90
TY-548M	A	3/4–4	100	500	22.24	17.38	13.90
TY-551M	D	3/16– 5/8	100	500	8.96	7.00	5.60
TY-553M	E	1/16– 5/8	100	500	8.96	7.00	5.60

*For outdoor use.

TY-RAP MARKING PENS

Choice of black or red marking pens for use on Ty-Rap identification ties.

T. & B. No. WT163M-1—Color ink, black. Net Each..... **$2.10**

T. & B. No. WT163M-3—Color ink, red. Net Each..... **2.10**

TY-RAP® INSTALLATION TOOLS

For quick installation of cable ties as indicated.

T. & B. No.	Fig.	For use with TY-RAP cable tie No. TY-	Net Each
WT-185F	.....	504, 505, 506, 508, 542, 503, 513, 515	$25.00
WT-186F	.....	507, 517	25.00
WT-196F	M	527M	25.00
WT-195F	.....	523M, 524M, 525M, 526M, 528M, 533M, 535M, 546M	25.00
WT-199	N	523M, 524M, 525M, 526M, 528M, 533M, 535M, 546M	*
WT-199M	P	523M, 525M, 524M, 526M, 528M, 533M, 535M, 546M	*
WT-193	.....	523M, 524M, 525M, 526M, 528M, 5232M, 5242M, 5234M, 5244M, 533M, 534M, 535M, 546M, 551M, 553M	*

*Price on application.

SELF-ADJUSTING WIRE STRIPPERS

T. & B. No. ABMK-1 (Fig. Q)—Hand wire stripper strips from #30 to #12 AWG wire without adjustments; no need to aim, as there is no stripping hole to locate. Strips insulation from one wire or in multiples, stranded or solid, aluminum or copper. Net Each..... **$31.00**

T. & B. No. ABMK-3—Similar to ABMK-1, but covers wire sizes #18 to #10 AWG. Net Each..... **$40.00**

FOR OTHER THOMAS & BETTS PRODUCTS NOT LISTED, WRITE FOR CATALOG.

TY-RAP® CABLE TIES

Fig. **F.** Self-locking nylon cable ties.

T. & B. No.	Dia. Range, In.	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TY-523M	1/16– 5/8	100	1000	$ 4.64	$ 3.63	$ 2.90
TY-523MX*	1/16– 5/8	100	500	5.28	4.13	3.30
TY-524M	1/16–1 1/8	100	1000	5.12	4.00	3.20
TY-524MX*	1/16–1 1/8	100	500	5.60	4.38	3.50
TY-525M	1/16–1 3/4	100	1000	6.56	5.13	4.10
TY-525MX*	1/16–1 3/4	100	500	7.20	5.63	4.50
TY-5232M	1/16–2	100	500	5.12	4.00	3.20
TY-5242M	1/16–2	100	500	6.24	4.88	3.90
TY-526M	1/16–3	100	500	10.72	8.38	6.70
TY-527M	3/16–3 1/2	50	500	21.44	16.75	13.40
TY-527MX*	3/16–3 1/2	50	500	22.72	17.75	14.20
TY-5234M	1/16–4	100	500	8.64	6.75	5.40
TY-5244M	1/16–4	100	500	13.60	10.63	8.50
TY-528M	1/16–4	100	500	15.04	11.75	9.40
TY-528MX*	1/16–4	100	500	16.32	12.75	10.20
TY-529M	3/16–9	50	100	44.32	34.63	27.70

Fig. **G.** Self-locking nylon cable straps with mounting hole.

TY-533M	1/16– 5/8	100	500	$ 7.04	$ 5.50	$ 4.40
TY-534M	1/16–1 1/8	100	500	8.00	6.25	5.00
TY-554M	1/16–1 1/8	100	500	8.32	6.50	5.20
TY-534MX*	1/16–1 1/8	100	500	8.64	6.75	5.40
TY-535M	1/16–1 3/4	100	500	8.96	7.00	5.60
TY-535MX*	1/16–1 3/4	100	500	10.24	8.00	6.40
TY-538M	1/16–1 3/4	100	500	9.76	7.63	6.10
TY-540M	1/16–1 3/4	100	500	11.04	8.63	6.90
TY-537M	3/16–3 1/2	50	500	28.64	22.38	17.90
TY-537MX*	3/16–3 1/2	.50	500	31.52	24.63	19.70

*For outdoor use.

TY-RAP MOUNTING BASES FOR CABLE TIES

Nylon bases accommodate a variety of strap widths. Models TC-501 and TC-502 bases are used with T. & B. cable ties TY-523M, TY-524M, TY-525M, TY-526M, TY-528M, and TY-546M. TC-503 base is used with cable tie TY-527M. TC-504 base is used with TY-523M cable tie.

T. & B. No.	Fig.	Mounting Hole Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TC-501	J	2-#10 screws	100	500	$ 6.24	$ 4.88	$ 3.90
TC-503	J	2-#1/4" screws	100	500	5.60	4.38	3.50
TC-502	K	1-#8 screw	100	500	25.28	19.75	15.80
TC-504	K	1-#5 screw	100	500	4.16	3.25	2.60

TY-RAP MOUNTING BASE FOR LASHING TIE

Weather resistant nylon mounting base for use with T. & B. lashing tie No. TY-5409. Width, .500".

TC-5355	H	#8 screw	25	250	$26.08	$20.38	$16.30
TC-5356	H	#10 screw	25	250	26.08	20.38	16.30
TC-5357	H	#1/4" screw	25	250	26.08	20.38	16.30

TY-RAP ADHESIVE MOUNTING BASE

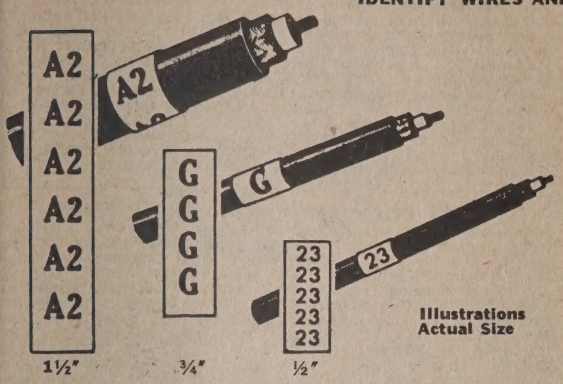
Pressure sensitive adhesive mounting base for use with Ty-Rap cable ties .190" maximum width.

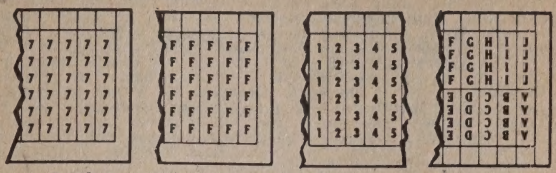
T. & B. No.	Fig.	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TC-5342A	L	100	500	$24.00	$18.75	$15.00

Thomas and Betts

E-Z CODE® WIRE MARKERS

SELF-ADHERING WIRE MARKERS
IDENTIFY WIRES AND CABLES OF ANY SIZE





Identification applied around-the-wire without ever touching the adhesive side of marker. With E-Z-Codes, you grab the tab—not the adhesive. Simply pull the E-Z-Tab to release each marker as you need it. The adhesive of each marker is protected, never contaminated by touching during application. Unused markers are always protected by an E-Z-Tab. Available in popular Vari-Temp and many other materials. Hundreds of stock codes, symbols and NEMA colors. For complete information on stock or special-made markers, ask for the E-Z-Code Wire Markers Catalog.

VARI-TEMP CLOTH MINI-MARKERS (MINIATURE WBC)

Designed specifically for small wires and cables. Stocked in ½" long markers for wires under 5/32" O.D.

POPULAR STOCK ITEMS

Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card	Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card
Solid Numbers			**Numbers in Sequence**		
0	**WCZEROMIN**	150	0–49	**WC0–49MIN**	150
1	**WC1MIN**	150	50–99	**WC50–99MIN**	150
etc. thru	**etc. thru**		100–132	**WC100–132MIN**	99
99	**WC99MIN**	150	133–165	**WC133–165MIN**	99
100	**WC100MIN**	102	etc. thru	**etc. thru**	
101	**WC101MIN**	102	430–462	**WC430–462MIN**	99
etc. thru	**etc. thru**		463–495	**WC463–495MIN**	99
250	**WC250MIN**	102	**Letters in Sequence**		
Solid Letters			Alphabet Repeated Six Times	**WCA-ZMIN**	156
A	**WCAMIN**	150			
etc. thru	**etc. thru**				
Z	**WCZMIN**	150			

½" VARI-TEMP CLOTH MINI-MARKER PRICES

Net per 100 Cards, Lots of		
Less than 1 Box	1 to 9 Boxes	10 Boxes and Over
$58.50	$39.85	$36.65

POPULAR STOCK SIZES

Table below is for ¾" size (5/32" to ¼" O.D. wire); for 1½" size (¼" up O.D. wire), replace D with S in cat. no. and divide number of markers per card by two.

Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card	Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card
Solid Numbers			**Numbers in Sequence**		
0	**WCZEROD**	72	0–10	**WC0–10D**	66
1	**WC1D**	72	1–18	**WC1–18D**	72
etc. thru	**etc. thru**		1–33	**WC1–33D**	66
99	**WC99D**	72	34–66	**WC34–66D**	66
100	**WC100D**	52	67–99	**WC67–99D**	66
101	**WC101D**	52	100–124	**WC100–124D**	50
etc. thru	**etc. thru**		etc. thru		
600	**WC600D**	52	1975–1999	**WC1975–1999D**	50
Solid Letters			**Letters in Sequence**		
A	**WCAD**	72	A–Z, A–J	**WCAZAJD**	72
etc. thru	**etc. thru**		A–Z, 0–9	**WCAZ09D**	72
Z	**WCZD**	72	a thru z	**WCLAZD**	52

(WBC) VARI-TEMP CLOTH PRICES, 1½" AND ¾"

Net per 100 Cards, Lots of		
Less than 1 Box	1 to 9 Boxes	10 Boxes and Over
$44.55	$29.20	$26.90

SELF-LAMINATING VINYL PLASTIC WIRE MARKERS (WSL)

Clear area wraps around itself to protect printing.

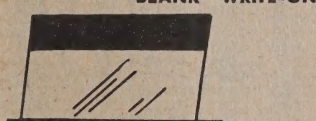
One-piece vinyl construction of transparent and opaque background. Printing permanently protected by wrap-around lamination during application. Has excellent comformability and resists oils, solvents and abrasion; waterproof and fungus resistant. Temperature range, −70° F to +250° F. Meets MIL-M-22106 and Fed. Spec. PPP-T-66d. Available in a variety of printed and blank "write-on" marker types.

PRINTED MARKERS WITH TRANSPARENT EXTENSION

Printing On Markers	T&B WSL Cat. No.	No. per Card	Printing On Markers	T&B WSL Cat. No.	No. per Card
Solid Numbers			**Numbers in Sequence**		
0	**WSZEROS***	36	1–9	**WS1–9S**	36
1	**WS1S***	36	0–49	**WS0–49D**	100
etc. thru	**etc. thru**		50–99	**WS50–99D**	100
99	**WS99S***	36	1–33	**WS1–33S**	33
100	**WS100S†**	26	34–66	**WS34–66S**	33
101	**WS101S**	26	67–99	**WS67–99S**	33
etc. thru	**etc. thru**		100–124	**WS100–124S**	25
600	**WS600S**	26	125–149	**WS125–149S**	25
Capital Letters			etc. thru	**etc. thru**	
A	**WSAS***	36	975–999	**WS975–999S**	25
etc. thru	**etc. thru**		**Letters & Nos. in Sequence**		
Z	**WSZS***	36	A–Z, 1–9	**WSAZ09S†**	36

*¾" size also available 100/card or †72/card, as indicated, change final suffix S (1½" lg. size for wires 5/32" to ¼" O.D.) to **D** (¾" lg. size for wires below 5/32" O.D.).

BLANK "WRITE-ON" MARKERS



Where requirements call for a few of many different, special legends, T&B's handy "write-on" blank markers provide on-the-spot marking. Write your legend on the white background; apply the marker. Clear laminated extension protects your written code.

T&B number indicates marker width; when ordering specify **112S,** 1½" lg. size for wires 5/32" to ¼" O.D. or **34D,** ¾" lg. size for wires below 5/32" O.D.

Mkr. Width	T&B WSL Cat. No.	No./Card ¾"	No./Card 1½"	Mkr. Width	T&B WSL Cat. No.	No./Card ¾"	No./Card 1½"
⅛"	**WSBW18x34D**	144	....	½"	**WSBW12x***	36	18
9/50"	**WSBW950x34D**	100	....	¾"	**WSBW34x***	24	12
¼"	**WSBW14x***	72	36	1"	**WSBW1x***	18	9
9/26"	**WSBW926x***	52	26	1½"	**WSBW112x***	12	6

*Add suffix **34D** for ¾" size, **112S** for 1½" size.

(WSL) SELF-LAMINATING VINYL PRICES

Net per 100 Cards, Lots of		
Less than 1 Box	1 to 9 Boxes	10 Boxes and Over
$46.75	$31.85	$29.40

THOUSANDS OF STOCK MARKERS FOR IMMEDIATE DELIVERY. WRITE FOR E-Z-CODE CATALOG.

FIT-105 POLYVINYLCHLORIDE TUBING

Extra-flexible tubing, ideal for cable jackets. Conforms to MIL-I-23053/2. High flexibility, strength and 50% shrinkage make it suitable for insulating components and cables with wide shape and size variations. **Shrinkage Temp.:** Approx. 347° F (175° C). **Operating Temp.:** 105° C, continuous. **Tensile Strength:** 1800 psi, min. **Elongation:** 200% ultimate min. **Low Temp. Flexibility:** −20° F. **Dielectric Strength:** 750 V/mil, minimum. **Longitudinal Shrinkage:** 10%. **Environment Resistance:** Inert to fungus; excellent resistance to fuel, oil, hydraulic fluid, solvents, acids and alkalis. Self-extinguishing to flame; non-corrosive. Poor resistance to soldering irons. **Standard Put-Up:** Continuous lengths and 6″ lengths. **Color:** Black.

Alpha No. FIT-	Size, Inches			Net Price per Pkg. of		
	Min. I.D.*	Recov. I.D.†	Wall Thk.	25′	100′	200′
105-3/64″	.046	.023	.020	$ 4.70	$15.44	$67.84‡
105-1/16″	.062	.031	.020	4.97	16.32	71.91‡
105-3/32″	.093	.046	.020	5.63	18.58	36.12
105-1/8″	.125	.062	.025	5.94	19.90	38.80
105-3/16″	.187	.093	.025	7.14	24.10	47.16
105-1/4″	.250	.125	.025	8.77	30.06	59.10
105-3/8″	.375	.187	.030	9.70	33.20	65.36
105-1/2″	.500	.250	.030	10.90	37.02	.....
105-3/4″	.775	.375	.035	14.48	49.86	.....
105-1″	1.000	.500	.040	20.41	71.34	.....
105-1 1/2″	1.500	.750	.045	40.97	123.58	.....
105-2″	2.000	1.000	.050	20.86§	101.09#	.....

*Before shrinking. †After shrinking. ‡Pkg. of 500′. §Pkg. of 10 available at $13.86. #Pkg. of 50.

PACKAGED ASSORTMENTS IN 6″ LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-105-MS1	3/64″–1/4″ (6 sizes)	10 per size (60 total)	$ 6.49
FIT-105-MS2	3/8″–1″ (4 sizes)	10 per size (40 total)	13.00
FIT-105-MS3	1 1/2″ and 2″ only	7 per size (14 total)	11.35

FIT-221 IRRADIATED POLYOLEFIN TUBING

Simple-to-use, all-purpose extruded tubing gives tight mechanical bond with thermal stability. Controlled shrinkage to correct predetermined size occurs in 7 seconds at 275° to 300° F, beginning at a slower rate at 235° F. Shrinks 50% (2:1 ratio) with only 5% maximum longitudinal shrinkage. Will not cold-flow or melt, but retains form stability throughout its temperature range. Clear tubing remains transparent over its full operating range, −67° F to 275° F. Though high temperature, material is flammable; will not burn, however, when shrunk over flame-resistant on non-flammable components. **Operating Temperature:** −55° C to +135° C continuous. **Tensile Strength:** 2000 psi min. **Elongation:** 200% min., ultimate. **Dielectric Strength:** 500 volts/mil, min. **Dielectric Constant:** 2.9 max. **Environment Resistance:** Will not support fungus. Non-corrosive. Max water absorption, 0.6%. Excellent resistance to fuel, oil, acids, alkalis and solvents. (Tested to Bell Labs tests.) **Colors:** Specify clear, black, white, red, yellow or blue when ordering.

Alpha No. FIT-	Size, Inches			4 Ft. Lengths		6″ Lengths	
	Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Pkg.	Pkg. Net	Std. Pkg.	Pkg. Net
221-3/64″	.046	.023	.016	100′	$21.40	20′	$5.93
221-1/16″	.063	.031	.017	100′	22.50	18′	5.93
221-3/32″	.093	.046	.020	100′	25.95	16′	5.93
221-1/8″	.125	.062	.020	100′	27.70	14′	5.93
221-3/16″	.187	.093	.020	100′	33.80	12′	5.93
221-1/4″	.250	.125	.025	100′	42.40	10′	5.93
221-3/8″	.375	.187	.025	100′	46.90	8′	5.93
221-1/2″	.500	.250	.025	20′	53.40	7′	5.93
221-3/4″	.750	.375	.030	20′	71.15	6′	5.93
221-1″	1.000	.500	.035	20′	99.65	4′	5.93
221-1 1/2″	1.500	.750	.040	20′	164.25	2.5′	5.93
221-2″	2.000	1.000	.045	20′	226.75	1.5′	5.93
221-3″	3.000	1.500	.050	8′	359.70	1′	5.93
221-4″	4.000	2.000	.055	8′	523.95	.5′	5.93

PACKAGED ASSORTMENTS IN 6″ LENGTHS

Assorted, standard colors and sizes in 6″ lengths, all identified.

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-221-MS1	3/64″ thru 1/8″ (5 sizes)	6 per size (30 total)	$ 6.62
FIT-221-MS2	1/4″ thru 3/4″ (4 sizes)	4 per size (16 total)	13.23
FIT-221-MS3	1″ thru 4″ (5 sizes)	2 per size (10 total)	11.58

FIT-350 IRRADIATED KYNAR‡ TUBING

High-temperature, thin-wall tubing with excellent cut-through and abrasion resistance. Semi-rigid, polyvinylidene fluoride. Non-flammable; shrinkage ratio, 2:1 (50%); high dielectric strength. Supplied in clear only. Shrinks to half size at 175°C; forms permanent mechanical bond. Operates at temperatures from −55° C to +175° C; withstands intermittent heat shock to 350° C.

Alpha No. FIT-	Dimensions, Inches			4 Ft. Lengths		6 In. Lengths	
	Min. I.D.*	Recov. I.D.†	Wall Th.	Std. Pkg.	Pkg. Net	Std. Pkg.	Pkg. Net
350-3/64″	.046	.023	.010	100′	$39.86	16′	$6.73
350-1/16″	.063	.031	.010	100′	43.44	14′	6.73
350-3/32″	.093	.046	.010	100′	52.08	12′	6.73
350-1/8″	.125	.062	.010	100′	56.86	10′	6.73
350-3/16″	.187	.093	.010	100′	88.50	8′	6.73
350-1/4″	.250	.125	.012	100′	111.34	6′	6.73
350-3/8″	.375	.187	.012	100′	146.42	4′	6.73
350-1/2″	.500	.250	.012	20′	48.36	2′	6.73
350-3/4″	.750	.375	.017	20′	88.98	1′	6.73
350-1″	1.000	.500	.019	20′	163.58	.5′	6.73

—WHAT IS ALPHA FIT TUBING?—

This concept in insulating and jacketing saves time and money and insures a better job. The user simply fits an expanded piece of FIT Tubing over the wire, cable, component or termination to be insulated, then uses heat to shrink it down to form a permanent, form-fitting seal. This expanded FIT Tubing eliminates forcing, covers irregular shapes and forms a skin-tight band. The irradiation process improves the properties of polymer tubing: Irradiated, cross-linked polymers will not flow at elevated temperatures; they are more resistant to chemical action; they are completely stress-crack resistant; longitudinal shrinkage is controlled and never exceeds 10%.

FIT-295 POLYOLEFIN SEMI-RIGID TUBING

Maximum strength at stress points; extremely strong, abrasion-resistant extruded tubing with heavy wall; good stability. Shrinkage 2:1 (50%) gives wide versatility. High temperature capability, though inflammable. **Shrinkage Temp.:** Approx. 275° F (135° C). **Operating Temp.:** 135° C, continuous. **Tensile Strength:** 2500 PSI, min. **Elongation:** 200% ultimate min. **Low Temp. Flexibility:** −67° F. **Dielectric Strength:** 500 V/mil, min. **Dielectric Constant:** 2.7. **Volume Resistance:** 10^{16} ohm/cm. **Environment Resistance:** Inert to fungus. Excellent resistance to fuel, oil, hydraulic fluid, solvents, acids and alkalis. Non-corrosive. Excellent resistance to soldering irons. No cracks or splits with heat aging 175° C (347° F) for 168 hours. **Standard Put-Up:** 4 ft. (prices given are per 100′) and 6″ lengths. **Colors:** Available in clear (specify) or color as indicated in table below.

Alpha No. FIT-	Clear or Color	Size, Inches			4 Ft. Lgths.		6″ Lengths	
		Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Pkg.	Pkg. Net	Std. Pkg.	Pkg. Net
295-3/64″	Yellow	.046	.023	.020	100′	$27.20	20′	$6.80
295-1/16″	White	.063	.032	.020	100′	28.53	18′	6.80
295-3/32″	Blue	.093	.045	.020	100′	32.84	16′	6.80
295-1/8″	Red	.125	.063	.020	100′	35.16	14′	6.80
295-3/16″	Green	.187	.093	.025	100′	42.96	12′	6.80
295-1/4″	Slate	.250	.125	.025	100′	53.56	10′	6.80
295-3/8″	Brown	.375	.187	.030	100′	59.53	8′	6.80
295-1/2″	White	.500	.250	.030	20′	13.49	7′	6.80

PACKAGED ASSORTMENT IN 6″ LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-295-MS1	3/64″–1/2″ (8 sizes)	(40 total)	$6.80

FIT-300 IRRADIATED POLYOLEFIN TUBING

OUTER WALL SHRINKS . . . INNER WALL MELTS

Surface irradiated tubing has been developed to answer the need for easy-to-use, permanent encapsulation and jacketing material. Because only the outer wall of this tubing is irradiated, when heat is applied, only this outer wall shrinks. The inner wall, instead of shrinking, melts and the viscous plastic released by the heat, encapsulates the wire or component placed in the tubing. The pressure created by the outer wall shrinkage forces the melted plastic into every orifice, eliminating voids and resulting, when cooled, in a solid, homogenous molding. Alpha HG-1 hot air gun is recommended for heating tubing. However, excellent results may be achieved by use of an oven, hot liquids, soldering iron or even the flame of a match. **Shrinking and Melting Temperature:** 275° F (135° C). **Operating Temperature:** −55° C to +110° C. **Tensile Strength:** 2000 psi. **Elongation:** 400%. **Dielectric Strength:** 1100 V/mil. **Volume Resistance:** 10^{16} ohm/cm.

Alpha No. FIT-	Stock Color	Size, Inches			4 Ft. Lgths.		6″ Lgth.	
		Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Net	Pkg. Net	Std. Pkg.	Pkg. Net
300-1/8″	Brown	.125	.023	.038	100′	$ 76.72	7′	$7.04
300-1/8″	Gray	.187	.060	.043	100′	93.74	6′	7.04
300-1/4″	White	.250	.080	.047	100′	116.72	5′	7.04
300-3/8″	Red	.375	.135	.050	100′	130.00	4′	7.04
300-1/2″	Blue	.500	.195	.055	20′	34.07	3′	7.04
300-3/4″	Yellow	.750	.313	.065	20′	52.60	2′	7.04
300-3/10″§	Blue	.300	.050	1.00	100′	296.18	2′	7.04

FIT-500 SHRINKABLE TEFLON TUBING

FIT-500 shrinkable tubing forms a tight, flexible protective covering for wires and electronic components; it is recommended for use as a mechanical shield and for friction-proofing. Resists chemical and corrosive agents; is non-burning, non-corrosive. Electrical characteristics remain stable throughout electrical range. It shrinks to approximately 65% of its supplied dia. at a temperature of 327° C; longitudinal shrinkage is less than 10%. **Operating Temperature:** −67° C to +250° C.

Alpha No. FIT-	Size, Inches			2 Ft. Lengths	
	Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Pkg.	Pkg. Net
500-30	.030	.022	.009	100′	$99.73
500-28	.035	.025	.009	100′	97.78
500-26	.040	.028	.010	100′	96.00
500-24	.050	.032	.010	100′	76.78
500-22	.055	.037	.010	100′	78.04
500-20	.060	.044	.012	100′	79.11
500-18	.076	.052	.012	100′	84.00
500-16	.093	.063	.012	100′	88.31
500-14	.121	.078	.012	100′	91.20
500-12	.153	.096	.012	50′	50.27
500-10	.191	.116	.012	50′	58.04
500-8	.240	.144	.015	50′	100.31
500-6	.302	.178	.015	20′	46.44
500-4	.370	.224	.015	20′	25.29
500-2	.430	.278	.015	20′	66.27
500-0	.470	.347	.015	20′	80.04

*Before shrinking. †After shrinking. ‡Pennsalt trademark. §Heavy walled tubing for use where a large volume of meltable material is needed.

FIT® TUBING ACCESSORIES, CAPS AND SOLDERING SLEEVES

FIT-600 NEOPRENE EXTRA FLEXIBLE-RUGGED IRRADIATED HEAT SHRINKABLE TUBING

MEETS MIL-R-46846A/1, MIL-1-23053/8/1, AMS-3623

Highly flexible, abrasion resistant heavy wall neoprene tubing ideal for fabrication in house short-run cables and harnesses. Widely used in prototype and repair work. At applied heat of 175° C, FIT-600 shrinks to approximately half its supplied diameter. Longitudinal shrinkage is less than 10%. Has good dielectric strength, excellent chemical and solvent resistance. Dielectric strength, 300 volts/mil. Flammability, self-extinguishing in 5 sec. Elongation, 250%.

Alpha No.	Size	Min. I.D. Before Shrinkage	Recov. I.D. After Shrinkage	Nom. Wall Thk.	Net per Pkg. 25′	Net per Pkg. 100′
FIT-600-¼	¼″	.250″	.143″	.035″	$ 53.23	$208.89
FIT-600-⅜	⅜″	.375″	.214″	.040″	63.72	249.78
FIT-600-½	½″	.500″	.286″	.048″	70.83	277.77
FIT-600-⅝	⅝″	.625″	.375″	.052″	79.62	312.22
FIT-600-¾	¾″	.750″	.428″	.057″	88.53	347.33
FIT-600-⅞	⅞″	.875″	.500″	.065″	99.00	388.22
FIT-600-1	1″	1.00″	.570″	.070″	108.01	423.56
FIT-600-1¼	1¼″	1.25″	.714″	.087″	149.70	587.33
FIT-600-1½	1½″	1.50″	.857″	.095″	174.93	686.00
FIT-600-1¾	1¾″	1.75″	1.00″	.107″	213.86	838.67
FIT-600-2	2″	2.00″	1.14″	.110″	248.77	975.56
FIT-600-3	3″	3.00″	1.71″	.125″	379.71	751.91*

*Pkg. of 50 Ft.

PACKAGED ASSORTMENTS IN 6″ LENGTH

Alpha No.	Tubing Size Range	Length	Lengths per Box	Net per Box
FIT-600 MS-1	¼″–⅞″	6″	12	$16.20
FIT-600 MS-2	⅞″–3″	6″	12	43.74

FIT-700 ADHESIVE LINED POLYOLEFIN CABLE AND CONNECTOR SLEEVES

Designed to protect cables used in overhead or underground installations from moisture penetration, corrosion and electrical breakdown. Sleeves are made of irradiated polyolefin tubing with an inner pre-coat of moisture resistant mastic for splice and connector protection on electrical, telephone, CATV cable. When heated to 275° F, tubing shrinks down and mastic flows to totally encapsulate wire splice or connector and cable insulation. Available in standard wall sleeves for use in general applications where wall thickness up to 600 volt cable is required, and in heavy wall sleeves for applications where extra mechanical protection or minimum wall thickness is needed, or where underground specifications must be met. Tough crystaline seal withstands external pressures to 100 psi. Operating temp., −40° C to +135° C. Dielectric strength, 300 volts/mil. Tensile strength, 2400 psi ASTM-D 2671. Black only.

STANDARD WALL SLEEVES

Alpha No.	Min. I.D. Expanded	Max. Recov. I.D.	Wall Thickness	Net per Pkg.*, Lengths 6″	9″	12″
FIT-700-1	.750″	.250″	.075″	$21.55	$18.15	$17.67
FIT-700-2	1.360″	.600″	.070″	31.93	28.33	26.93
FIT-700-3	1.400″	.400″	.070″	26.93	22.33	21.23
FIT-700-4	1.950″	.750″	.070″	39.38	35.92	33.82
FIT-700-5	2.750″	1.000″	.090″	40.80	.....	39.20

HEAVY WALL SLEEVES

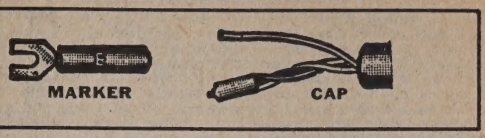
FIT-700-21	.750″	.220″	.110″	$25.00	$18.33	$ 17.50
FIT-700-22	1.200″	.300″	.165″	25.00	24.38	20.00
FIT-700-23	1.500″	.500″	.175″	35.00	30.00	27.50
FIT-700-24	1.920″	.600″	.175″	40.00	35.63	31.25
FIT-700-25	3.300″	1.000″	.175″	95.00	.....	95.00
FIT-700-26	4.500″	1.500″	.175″	112.50	.....	112.50

*6″ lgths. have 12 lgths. per pkg. 9″ lgths. have 8 lgths. per pkg. 12″ lgths. have 6 lgths. per pkg.

ASSORTMENT

Alpha No.	Description	No. of Lgths.	Net Each
FIT-700 MS-1	6″ lengths all sizes, standard sleeves	10	$32.48
FIT-700 MS-2	6″ lgths. all sizes, heavy wall sleeves	12	68.22

FIT-MARKERS AND FIT-CAPS



FIT-MARKERS—SHRINKABLE WIRE MARKERS

Pre-printed lengths of flexible black polyolefin tubing for permanent wire and cable identification. Printed in white type by hot stamping foil process; assures permanence even when subjected to a high degree of abrasion or certain chemical solvents. For numerical markers (two each 1–50) add suffix **NS** (example, MRK-B-**NS**); for alphabetical markers (4 each A–Z) add suffix **LS** (example, MRK-B-**LS**) to numbers below.

Alpha No.	Wire O.D., In.	Min. I.D.*, In.	Recov. I.D.†, In.	Marker Lgth., In.	Wall Th., In.	Net Pkg. 100
MRK-A	.049–.065	.098	.049	¾	.016	$4.50
MRK-B	.066–.095	.122	.061	¾	.016	4.50
MRK-C	.096–.150	.178	.089	¾	.016	4.50

FIT-CAPS

Shrinkable Polyolefin Wire Termination Caps—Semi-rigid tubing sealed on one end and specifically designed to act as termination caps over wire, cable and splices. Shrinkage ratio. 2:1.

Alpha No.	Color	Dimensions, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	Nom. Lgth.	Net per Standard Package Put-Up 1000	100
CAP-1	White	.063	.025	.016	¾	$ 91.67	$ 9.90
CAP-2	Red	.125	.050	.020	1	116.67	12.48
CAP-3	Slate	.250	.100	.025	1¼	160.00	16.80
CAP-5	Brown	.350	.175	.035	1½	516.67	52.70
CAP-4	Black	.500	.250	.040	1½	203.33	21.15

Self-Encapsulating Molded Caps—Molded, heat shrinkable, cross-linked polyolefin with two inserts: One at closed end of cap melts and flows between the splice forming a moisture-proof encapsulation; insert near open end acts as a dam. Cap shrinks and melts at 275° F. Black only.

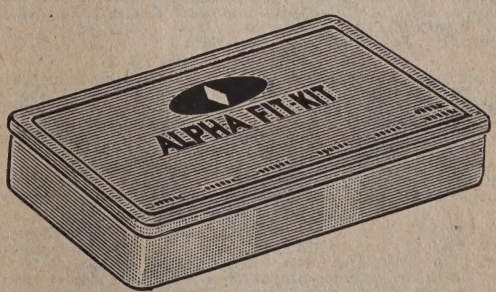
Alpha No.	Size, Inches Min. I.D.*	Recov. I.D.†	Nom. Lgth.	Nom. Wall Thk., Inch Inner	Outer	Net per Pkg. Pkg. of 10	Pkg. of 25
CAP-11	.160	.080	1.12	.013	.040	$26.52	$10.60
CAP-12	.250	.120	1.25	.020	.050	31.07	12.42
CAP-15	.360	.180	1.50	.030	.060	34.85	13.93

Molded Polyolefin Caps—Shrinks when heated (275° F) to a predetermined size and shape. Shrinkage ratio, 2:1. Black only.

Alpha No.	Dimensions, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	Nom. Lgth.	Net per Pkg* Pkg. of 10	Pkg. of 25
CAP-21	.16	.08	.04	1.12	$15.15	$ 6.07
CAP-22	.25	.12	.05	1.15	18.93	7.58
CAP-23	.36	.18	.06	1.40	22.73	9.08
CAP-24	.50	.25	.07	1.87	30.30	12.12
CAP-25	.75	.37	.08	2.70	45.45	18.18
CAP-26	1.00	.50	.09	3.50	60.60	24.25
CAP-27	1.50	.75	.10	4.00	79.55	31.82
CAP-28	2.00	1.00	.11	4.50	98.48	39.40

*Before shrinking. †After shrinking. *Larger quantity prices on request.

FIT-KITS—IDEAL R & D, OR PROTOTYPE SAMPLERS



FIT-KIT-1—Contains more than 70 6″ lengths of 7 widely used types of FIT Tubing in a variety of colors. Compartmented clear plastic box allows easy storage and quick identification. Includes lengths of FIT-105, FIT-221, FIT-295, FIT-300, FIT-350, FIT CAPS AND FIT MARKERS. Size, 11″ w. x 6½″ d. x 2″ h. Net Each..... **$29.15**

FIT-KIT-2—Contains all items in FIT-KIT-1, plus 6″ lengths of FIT-200, FIT-400, FIT-500, FIT-600, FIT-700, and 1″ cut pieces of FIT-200 and FIT-521. Kit is complete engineering, prototype, or laboratory inventory of all Alpha FIT-Tubing. Consists of two 11″ w. x 6½″ d. x 2″ h. compartmented clear plastic boxes. Net Each..... **$52.50**

FIT-SEAL—MOISTURE-RESISTANT FEEDTHROUGH SEAL

MEETS MIL-I-81765, MIL-E-917, MIL-STD-454

Covers cables from .38″ to 2½″. Reduces installation time and costs. May be used on ship-board, aircraft, control box or cabinet applications. May be used with plastic jacketed or armored cables or piping. Seal contains a sealing boot and a retaining ring. Heat causes molded boot to shrink tightly against cable while pre-coated adhesive melts and flows to fill all voids and establish a moistureproof seal. Meets requirements established for U.S. Navy and Coast Guard vessels.

Alpha No.	Cable O.D. Range	Drilled or Punched Hole*	Net Each
FIT-SEAL-2	.38″– .70″	1.285″	$18.75
FIT-SEAL-3	.65″–1.05″	1.750″	19.58
FIT-SEAL-4	1.00″–1.35″	2.055″	20.67
FIT-SEAL-5	1.28″–1.80″	2.930″	22.08
FIT-SEAL-6	1.77″–2.50″	3.808″	29.17

*±.030″.

FIT-CAP-P IRRADIATED HEAT SHRINKABLE TUBING

Completely pots connections. Assures absolute electrical protection. Inexpensive method of encapsulating crimped electrical connections. When heated with heat tool, outer jacket quickly shrinks forcing meltable inner wall to flow into every irregularity of the crimp. Dielectric strength, 1100 volts/mil. Stock color, black.

Alpha No.	Overall Length	I.D. Before Shrinking	Recovered I.D.	Nom. Thickness	Net per Pkg. 1000	Net per Pkg. 100
CAP-P-⅛	.875″	.125″	.023″	.045″	$ 26.67	$ 2.97
CAP-P-3⁄16	1.060″	.187″	.060″	.062″	36.33	4.00
CAP-P-¼	1.120″	.250″	.080″	.078″	62.17	6.83
CAP-P-⅜	1.375″	.375″	.090″	.082″	111.67	12.28
CAP-P-½	1.500″	.500″	.090″	.100″	188.00	20.68

FIT-BOOTS FOR D-SUBMINIATURE CONNECTORS*

Designed for subminiature rectangular connectors manufactured by ITT-CANNON, CINCH and AMPHENOL-BORG. Replace metal molds and plotting forms used on molded harnesses. Boots are molded of heat shrinkable, modified polyolefin compound. Shrinks tight over connector shells. Any Alpha heat gun may be used to shrink boots.

	TOP ENTRY		
	Fits		
Alpha No.	Cannon, Cinch	Amphenol Series -17	Net Each
FIT-BOOT-1	DE-9	XX09X	$5.42
FIT-BOOT-2	DA-15	XX15X	5.83
FIT-BOOT-3	DB-25	XX25X	6.88
FIT-BOOT-4	DC-37	XX37X	8.33
FIT-BOOT-5	DD-50	XX50X	10.00

END ENTRY			SIDE ENTRY		
	Fits			Fits	
Alpha No.	Cannon, Cinch	Net Each	Alpha No.	Cannon, Cinch	Net Each
FIT-BOOT-6	DE-9	$5.42	FIT-BOOT-11	DE-9	$6.47
FIT-BOOT-7	DA-15	6.05	FIT-BOOT-12	DA-15	6.67
FIT-BOOT-8	DB-25	6.88	FIT-BOOT-13	DB-25	8.13
FIT-BOOT-9	DC-37	8.55	FIT-BOOT-14	DC-37	9.80
FIT-BOOT-10	DD-50	10.22	FIT-BOOT-15	DD-50	11.67

*Trademark, ITT Cannon.

HEAT GUNS AND ACCESSORIES

MINIATURE FIT GUN

For shrinking all FIT tubing and FIT sleeves. Durable, electric motor driven unit delivers a high volume of air to the nozzle. Lightweight, for bench or hand use. Easily replaceable heat elements; 3-position rocker switch. Rated 7 amps, 115 VAC. Includes tubing reflector and FIT sleeve reflector; stand for vertical or horizontal use. **Typical Temperatures:** 347° F without adapter; 401° F with adapter only; 446° F with tubing reflector; 664° F with FIT sleeve reflector.

Alpha Gun FG-1 FIT Gun—Net Each..... $61.25

INFRA-RED HEAT GUN FG-5

Shrinks tubing safely, in seconds. Ellipsoidal reflector focuses heat from quartz iodine lamp onto the tubing. Most visible light optically filtered to eliminate eyestrain. Reflectors permit operator to observe shrinking process, minimizing faulty installation. Noiseless, lightweight, no annoying heat build-up. Includes interchangeable tubing reflectors and small sleeve reflector. Input power, 105–120 VAC, 50–60 Hz, 4.2 amps. Lamplife, more than 1000 hrs. (intermittent). Weight, 1.6 lbs.

Alpha No. FG-5 Infra-Red Heat Gun—Net Each.... $287.37

FLAME TORCH KIT FG-10

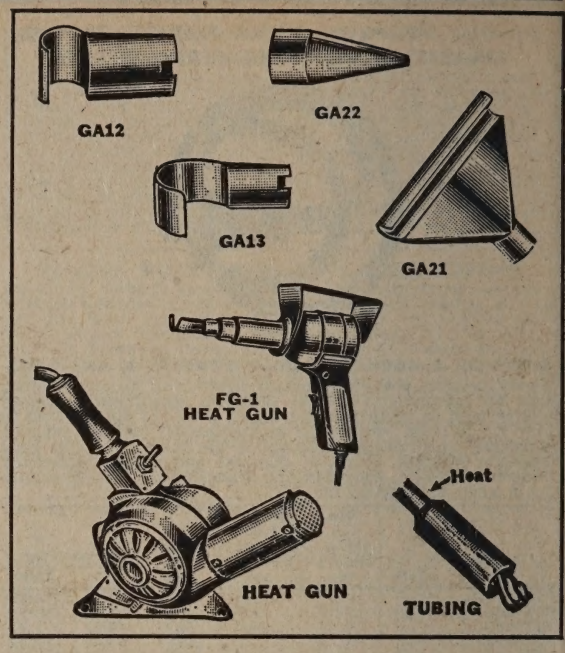
Ideal propane torch for in-field use. Supplies soft yellow flame for shrinking tubing without damage. Provides even-temperature flame. Has pistol grip torch. Valve assembly has control knob for attachment to ordinary propane bottle (not supplied). Assembly includes belt clip, torch holding hook. Has 6 ft. L.P.G. propane hose.

Alpha No. FG-10 Flame Torch Kit—Net Each..... $98.51

HEAT GUNS

The recommended tool for shrinking FIT tubing. A flameless, quiet-operating hot air torch that may be used for portable operations or secured permanently to a bench by means of a mounting bracket. Heavy-duty construction. Adjustable turbo fan air intake to control temperature and a double jacketed housing of diecast aluminum. With neoprene-jacketed 3-wire cord and plug and adapter for 2-prong receptacle. Motor for 115 VAC/DC. Length, 11″ overall.

Alpha No. HG-1 Heat Gun—Temp. up to 500° F. Net. $66.34
Alpha No. HG-2 Heat Gun—Temp., 750°–1000° F. Net. 79.48



HOT AIR PENCIL FG-4

Controls airflow temperature, velocity and direction. Used for precise selective heating of smaller diameter tubing and sleeves. Permits concentration of heat exactly where it is required. Ideal for crowded circuit areas. Uses factory or shop compressed air supply. Unit complete with stand, regulator, needle point tip, sleeve reflector and tubing reflector. Input power, 120 VAC, 4 amps. Airflow, 60 psig/min., 4 CFM.

Alpha No. FG-4 Hot Air Pencil—Net Each..... $167.07

ADAPTER NOZZLE

Concentrates heat and allows use of baffle accessories.

Alpha No. AN-1 Adapter Nozzle—Net Each..... $4.42

BAFFLES

Designed to concentrate heat in a confined working area. To be used with AN-1 Adapter Nozzle.

Alpha No. GA-12 Baffle—For small size cables. Net Ea.... $4.12
Alpha No. GA-13 Baffle—For larger sizes of cable. Net.... 6.16
Alpha No. GA-21 Baffle—For larger cables in long lengths. Net Each..... $35.25
Alpha No. GA-22 Baffle—Pointed design for spot shrinking. Net Each..... $22.84

ALPHA LACING CORDS AND TAPES

NYLON TWISTED CORD—MIL-T-713A

Alpha No.	Class	Tensile Strength	Nom. O.D.	Alpha No.	Class	Tensile Strength	Nom. O.D.
LC-113	I	70 lbs.	.050″	LC-115	III	32 lbs.	.030″
LC-114	II	48 lbs.	.035″	(Both Nos. P Twine Type)			

FLAT BRAIDED TAPE (LC-132—LC-162)

Nom. Thick.: .014″ (LC-134 is .010″, LC-158 and LC-162 are .012″). **Nom. Width:** 3⁄32″ (LC-134 is 1⁄16″). **Tensile Strength:** 50 lbs. (LC-134 is 30 lbs.). **Material:** Nylon (LC-158 and LC-162 are Dacron). **Finish:** Per MIL-T-713A except: LC-132 and LC-158, synthetic rubber-like resin, melting point over 190° F; LC-140, non-slip fungistatic synthetic rubber; LC-143, "wax free" thermoplastic synthetic resin, melting point over 350° F. LC-136 meets MIL-T-713A, Type P, Class II.

Alpha No.	Color	Standard Put-Up	Net per Put-Up
LC-113 (Nylon)	White	½ lb. on spool	$ 5.58
	Black	½ lb. on spool	6.50
LC-114 (Nylon)	White	½ lb. on spool	5.58
	Black	½ lb. on spool	6.50
LC-115 (Nylon)	White	½ lb. on spool	10.00
	Black	½ lb. on spool	10.83
LC-132 (Nylon)	White	500 yds. on tube	11.08
	Black	500 yds. on tube	12.50
LC-134 (Nylon)	White	500 yds. on spool	9.58
	Black	500 yds. on spool	10.58
LC-136 (Nylon)	White	500 yds. on spool	10.00
	Black	500 yds. on spool	10.83
LC-140 (Nylon)	White	500 yds. on spool	11.00
	Black	500 yds. on spool	11.92
LC-143 (Nylon)	White	500 yds. on spool	9.00
	Black	500 yds. on spool	6.25
LC-162 (Dacron)	White	500 yds. on spool	10.00
	Black	500 yds. on spool	10.83

PVC, ZIPPER, FIBERGLASS AND TEFLON TUBING

ALPHA POLYVINYLCHLORIDE PVC-105 MIL-I-631D PLASTIC TUBING

All-purpose, economical tubing is compounded with first quality, non-migratory resinous type plasticizers; designed to counteract chemical and environmental degradation. Rated for temperatures as high as 105° C with high dielectric strength. No loss in tensile strength or flexibility; resistant to abrasion. Retains its flexibility which permits it to cling to and protect irregular shapes. Meets MIL-I-631D, Type F, Form U, Grade C, Class I, Category 1. **Dielectric Strength:** 800 V/mil. **Tensile Strength:** 2700–3300 psi. **Min. Volume Resis.:** 10^{11} ohm/cm. **Low Temperature Flexibility:** −20° C. **Specify Color:** #24 thru #2: Clear, black, white, yellow, red or green; #1 thru 1": Clear, black or white; 1⅛" thru 2½": Clear or black. **To Order:** Add gauge size to prefix **PVC-105/**, e.g., **PVC-105/24.**

Ga. Size	Nom. I.D., In.	Net per Spool of 100′	500′	1000′
24	.022	$6.20	.....	$18.03
22	.027	6.30	.....	18.76
20	.034	6.40	.....	19.12
19	.038	6.50	.....	19.85
18	.042	6.65	.....	20.59
17	.047	6.75	.....	21.32
16	.053	6.90	.....	22.06
15	.059	7.00	.....	22.79
14	.066	7.15	$13.33	.....
13	.076	7.40	14.17	.....
12	.085	.....	.....	.....
11	.095	.....	.....	.....
10	.106	7.90	15.83	.....
9	.118	9.45	21.03	.....

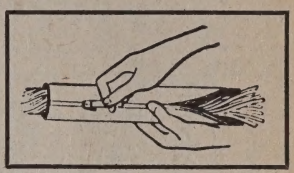
Ga. Size	Nom. I.D., In.	Net Price per Put-Up* Coil of 25′	Coil of 100′	Coil of 250′	Spool of 500′
8	.133	.....	$ 9.90	.....	$22.50
7	.148	.....	10.20	.....	23.53
6	.166	.....	10.70	.....	25.20
5	.186	.....	11.20	.....	26.87
4	.208	.....	11.80	$21.75	.....
3	.234	.....	12.65	23.75	.....
2	.263	.....	13.65	26.25	.....
1	.294	.....	14.70	28.95	.....
0	.330	.....	16.05	32.40	.....
3/16"	.312	.....	18.75	39.05	.....
3/8"	.375	.....	21.40	45.65	.....
7/16"	.438	.....	20.75	.....	.....
1/2"	.500	.....	23.50	.....	.....

Ga. Size	Nom. I.D., In.	Net Price per Put-Up* Coil of 25′	Coil of 50′	Coil of 100′
9/16"	.562	.....	.....	$31.00
5/8"	.625	.....	.....	33.90
3/4"	.750	.....	$23.20	.....
7/8"	.875	.....	26.30	.....
1"	1.000	.....	29.20	.....
1 1/8"	1.125	.....	38.15	.....
1 1/4"	1.250	.....	41.15	.....
1 3/8"	1.375	.....	44.70	.....
1 1/2"	1.500	.....	55.00	.....
1 3/4"	1.750	.....	70.45	.....
2"	2.000	.....	97.80	.....
2 1/4"	2.250	.....	117.05	.....
2 1/2"	2.500	.....	140.25	.....

*Larger put-ups available. †On spool.

ALPHA POLYVINYLCHLORIDE ZIPPER TUBING

All-purpose, easy-to-use jacketing material; zips on in seconds without disconnecting or disturbing connection. Track thickness (when closed), .095"; dielectric strength, 759 V/mil; tensile strength, 3,810 psi; ultimate elongation, 255%; operating temperature, upper limit, +106° C; lower limit, −86° C; fungus proof; self-extinguishing; lateral pull strength (permanently sealed) 59.8 #/in. One metal slider supplied with every 25 feet; additional sliders, AB-295, may be ordered at 5¢ each. **ZIP-31M Type:** MIL-I-631D, Grade C materials. Temp., −20° C to +105° C. Wall thickness, .040"; for heavy duty construction. Clear or black. **ZIP-50 Type:** Aluminum foil laminated between two sheets of polyvinyl. Wall thickness, .040". Silver-gray color. **ZIP-31 Type:** MIL-I-631D, Grade C materials. All-purpose type. Wall thickness, .020". Temp., −20° C to +105° C. Clear or black.



Alpha No.	Net 100′*	Alpha No.	Net 100′*	Alpha No.	Net 25′	Net 50′	Net 100′*
ZIP-31M-1/4"*	$ 95.17	ZIP-50-1/4"*	$109.46	ZIP-31-1/4"*	$20.81	$40.95	$80.57
ZIP-31M-3/8"*	100.57	ZIP-50-3/8"*	116.00	ZIP-31-3/8"*	21.39	42.11	82.86
ZIP-31M-1/2"	120.89	ZIP-50-1/2"	140.49	ZIP-31-1/2"	23.66	46.58	91.69
ZIP-31M-5/8"	129.06	ZIP-50-5/8"	150.29	ZIP-31-5/8"	24.54	48.34	95.17
ZIP-31M-3/4"	137.23	ZIP-50-3/4"	160.09	ZIP-31-3/4"	25.45	50.15	98.77
ZIP-31M-7/8"	145.31	ZIP-50-7/8"	169.89	ZIP-31-7/8"	26.35	51.92	102.29
ZIP-31M-1"	154.86	ZIP-50-1"	181.31	ZIP-31-1"	27.38	53.9x	106.37
ZIP-31M-1 1/8"	163.11	ZIP-50-1 1/8"	191.26	ZIP-31-1 1/8"	28.28	55.78	109.97
ZIP-31M-1 1/4"	167.03	ZIP-50-1 1/4"	196.09	ZIP-31-1 1/4"	28.69	56.59	111.60
ZIP-31M-1 1/2"	183.30	ZIP-50-1 1/2"	215.69	ZIP-31-1 1/2"	30.47	60.14	118.69
ZIP-31M-1 3/4"	199.60	ZIP-50-1 3/4"	225.46	ZIP-31-1 3/4"	32.27	63.72	125.80
ZIP-31M-2"	215.83	ZIP-50-2"	254.86	ZIP-31-2"	34.03	67.22	132.77

*Write for prices on larger put-ups. *Cannot be closed with slider; must be done manually.

ALPHA FIBERGLASS TUBING

PIF-130 is the toughest and most pliable of insulating materials and is formulated to provide the maximum in electrical characteristics, chemical resistance, heat stability and abrasion resistance. Conforms to MIL-I-3190B, Class B, Grade B; ASTM-D372; NEMA-VS-1; MIL-I-21557. Tubing is constructed from an inorganic fiberglass base sleeving coated with heat-resistant, extremely flexible, tough plastic insulation. Ends will not fray when cut; tubing will not support combustion. **Max. Operating Temp.:** −20° C to +130° C. **Dielectric Strength:** 4000 V/mil. **Tensile Strength:** 1500–2000 psi. **Ultimate Elongation:** 300–400%. **Min. Volume Resis.:** 10^7 ohm/cm. **Color:** Black.

Alpha No.	Size	Wall Thk. In. Max.	Min.	Net per Put-Up Spool of 100′	Spool of 250′	Spool of 500′	Spool of 1000′
PIF-130/24	24	.022	.016	$ 8.33	.....	$32.50	$54.55
PIF-130/22	22	.022	.016	8.33	.....	32.50	54.55
PIF-130/20	20	.022	.016	8.50	.....	33.10	55.56
PIF-130/18	18	.022	.016	8.84	.....	34.48	57.85
PIF-130/16	16	.028	.020	9.19	.....	35.86	60.16
PIF-130/14	14	.028	.020	9.24	.....	35.46	.....
PIF-130/12	12	.028	.020	9.49	.....	37.82	.....
PIF-130/10	10	.028	.020	10.30	.....	41.46	.....
PIF-130/8	8	.028	.020	11.48	.....	46.18	.....
PIF-130/6	6	.028	.020	13.68	$30.71	.....	.....
PIF-130/4	4	.036	.026	15.36	36.98	.....	.....
PIF-130/2	2	.036	.026	19.11	46.38	.....	.....
PIF-130/0	0	.042	.030	24.93*	.....	.....	.....
PIF-130/3/16"	3/16"	.042	.030	31.60*	.....	.....	.....
PIF-130/1/4"	1/4"	.042	.030	41.73*	.....	.....	.....
PIF-130/1/2"	1/2"	.042	.030	52.69*	.....	.....	.....
PIF-130/5/8"	5/8"	.042	.030	63.60*	.....	.....	.....
PIF-130/3/4"	3/4"	.042	.030	77.87*	.....	.....	.....
PIF-130/7/8"	7/8"	.042	.030	95.36*	.....	.....	.....
PIF-130/1"	1"	.042	.030	115.07*	.....	.....	.....

*On coils, not on spools

ALPHA TEFLON EXTRUDED TUBING

A thin, flexible insulation, Teflon* tubing permits compactness never before possible. Unmatched for use in electrical applications at high frequencies and temperatures. Rated for continuous operations at 250° C while it retains its toughness and flexibility. Will not shrink back during soldering. Chemically inert; has zero moisture absorption; non-flammable. TFT-250 conforms to MIL-I-22129C. **Max. Operating Temp.:** −90° C to +250° C. **Dielectric Strength:** 1400 V/mil. **Tensile Strength:** 5000–7500 psi. **Ultimate Elongation:** 300–500%. **Min. Volume Resis.:** 10^{17} ohm/cm. **Specify Color:** TFT-200: #30 thru #8: Natural or black; #7 thru #0: Natural only. TFT-250: Natural only. TFT-250 is similar characteristically to TFT-200, but is recommended for use where additional dielectric values and mechanical strength are necessary. **To Order:** Add gauge size to **TFT-200/** or **TFT-250/** prefix, e.g., **TFT-200/30.**

THIN WALL TUBING
Alpha No. TFT-200/

Ga. Size	Nom. Dim., In. I.D.	Wall Thk.	Net/ Spool of 100′
30	.012	.009	$13.13
28	.015	.009	13.75
26	.018	.010	15.00
24	.022	.010	15.95
22	.027	.010	16.58
20	.034	.012	20.33
19	.038	.012	20.33
18	.042	.012	22.50
17	.047	.012	23.45
16	.053	.012	23.75
15	.059	.012	25.63
14	.066	.012	27.80
13	.076	.012	30.93
12	.085	.012	34.38
11	.095	.012	37.50
10	.106	.012	41.88
9	.118	.015	45.30*
8	.133	.015	51.88
7	.148	.015	56.83*
6	.166	.015	61.88*
5	.186	.015	67.83*
4	.208	.015	74.70*
3	.234	.015	82.20*
2	.263	.015	99.70*
1	.294	.015	109.38*
0	.330	.015	125.00*

STANDARD WALL TUBING
Alpha No. TFT-250/

Ga. Size	Nom. Dim., In. I.D.	Wall Thk.	Net/ Spool of 100′
24	.022	.012	$18.13
22	.027	.012	18.45
20	.034	.016	25.00
19	.038	.016	26.25
18	.042	.016	26.58
17	.047	.016	28.13
16	.053	.016	29.38
15	.059	.016	31.25
14	.066	.016	33.45
13	.076	.016	37.20
12	.085	.016	40.33
11	.095	.016	44.70
10	.106	.016	49.70
9	.118	.020	57.50*
8	.133	.020	61.25*
7	.148	.020	71.88*
6	.166	.020	79.38*
5	.186	.020	85.63*
4	.208	.020	90.70*
3	.234	.020	107.83*
2	.263	.020	119.08*
1	.294	.020	134.70*
0	.330	.020	149.08*

*Random lengths packed in 100′ coils. *Registered DuPont Corp. trademark.

RETRACTILE COIL CORDS; LAMP, REPLACEMENT & EXTENSION CORDS

RETRACTILE COIL POWER CORDS

Neoprene jacket. Long extension. UL Approved.

RETRACTED LENGTHS 2 AND 4 FEET

Quality multi-conductor has stranded tinned copper conductors, rubber insulation and weather-resistant neoprene jacket, overall. Retracted length 2 ft. has extended length 12 ft.; retracted length 4 ft. has extended length 25 ft. Temp., −20° C to +60° C. **Conductors' Color Code:** 1 = Black; 2 = White; 3 = Green; 4 = Red.

Conductor			UL	Rating		Alpha	Net Ea., Lgth.	
No.	Size	Strand	Type	Amps	Volts	No.†	2 Ft.	4 Ft.
2	18	41/34	SVO	7	300	660/2	$ 9.11	$16.40
3	18	41/34	SVO	7	300	760/2	13.67	24.89
2	18	41/34	SJO	7	300	661/2	9.99	18.15
3	18	41/34	SJO	7	300	662/2	12.74	23.70
4	18	41/34	SJO	5.6*	300	663/2	14.96	28.05
2	16	65/34	SJO	10	300	664/2	12.42	23.15
3	16	65/34	SJO	10	300	665/2	16.10	30.42
4	16	65/34	SJO	8*	300	666/2	19.89	36.84
3	16	41/34	SO	10	600	670/2	22.25	41.54
4	16	65/34	SO	8*	600	671/2	24.57	46.26
3	14	41/30	SO	15	600	673/2	27.51	52.08
4	14	41/30	SO	12*	600	674/2	32.93	59.99

*For 4 conductors carrying current; if one lead is used as ground, amp rating is same as 2- and 3-conductor cords. †No. shown is for 2-ft. length; for 4-ft. length change suffix to /4 (example: 660/4).

POWER CORD SETS

Same as above, but with sturdy, molded male plug on one end; stripped on other end. All are 18″ long, retracted; 7½ ft. long, extended. Rated 300 volts. **Conductors' Color Code:** 1 = Black; 2 = White; 3 = Green.

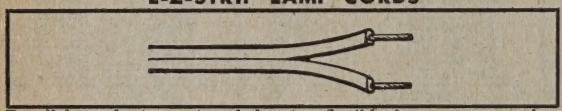
Conductor			UL	Coil	Alpha	Net
No.	Size	Strand	Type	O.D., In.	Number	Each
2	18	41/34	SVO	7/8	654	$ 8.19
3	18	41/34	SJO	1 3/8	656	15.54
2	16	65/34	SJO	1 3/8	657	11.12
3	16	65/34	SJO	1 7/16	658	16.40

RETRACTILE TEST LEAD WIRE

High grade rubber insulated for maximum flex life. Single conductor, extra flexible tinned copper. Retracted length, 12″ with 6″ straight lead on each end; extends to 6 ft. No. 20 conductor 41/36 stranded. Rated 4 amps, 5,000 volts. Coil ¾″ O.D.

Alpha No. 650 Retractile 12″ Test Lead—Specify black or red. Net Each..... $2.36

E-Z-STRIP LAMP CORDS



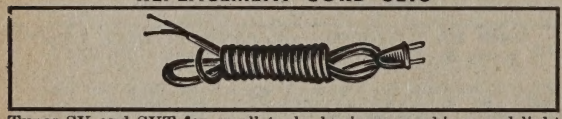
Parallel conductors, stranded extra flexible bare copper, color-coded insulation. Slit in jacket permits "E-Z" separation. For small instruments and appliances. **Temperature:** −20° C to +60° C. **Rating:** 300 V. UL Approved.

Conductor			Insul.	UL	Nominal		Alpha
No.	Size	Strand	Type	Type	Wall	O.D.	No.
2	18	41/34	Plastic	SPT-1	.032″	.215″ x .115″	1977
2	18	41/34	Plastic	SPT-2	.045″	.285″ x .150″	1978
2	18	41/34	Plastic	SPT-1	.032″	.215″ x .115″	1979

Alpha No.	Stock Colors*	Net per Spool			
		100 Ft.	250 Ft.	500 Ft.	1000 Ft.
1977	A, B, C, D, E	$ 6.81	$14.82	$30.14	$60.23
1978	Brown only	12.56	29.49	59.00	112.95
1979	Clear only	9.63	22.59	43.28	84.09

*Specify color: A, Brown; B, Black; C, White; D, Gray; E, Tan.

REPLACEMENT CORD SETS



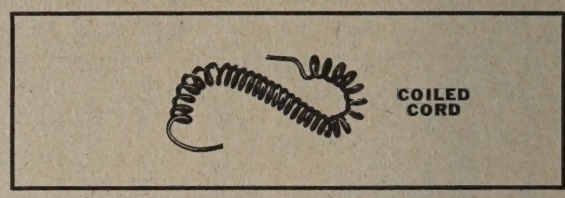
Types SV and SVT for small tools, business machines and light duty equipment. Types SJ and SJT for heavier duty tools, electric saws, small motors, grinders, saws and sanders. Conductor bare copper, vinyl or rubber color coded insulation, cotton fillers, rubber or vinyl jacket overall. One end fitted with molded two or three conductor male plug; other end jacket stripped back 1½″ with ⅝″ bare conductors exposed. Available in individual boxes or coiled and tied in bulk packages. Prices for bulk packages of 10 or 25 available on request.

Alpha No.	UL Type	Conductor No.	Size	Strand	Lgth., Ft.	Nom. O.D.	Net Each
UL TYPES SV, SVT							
600	SV	2	18	41/34	6	.245″	$1.67
602	SV	2	18	41/34	9	.245″	1.97
775	SV	3	18	41/34	6	.267″	1.44
776	SV	3	18	41/34	8	.267″	1.61
777*	ST	3	18	41/34	6	.257″	1.29
UL TYPES SJ, SJT							
615	SJ	3	18	16/30	6	.330″	$2.12
778	SJ	3	18	16/30	8	.330″	1.71
616	SJ	3	18	16/30	9	.330″	2.42
779*	SJT	3	18	16/30	8	.330″	1.50
618	SJ	3	16	26/30	6	.365″	3.02

*Cord material and color, gray vinyl; balance, black rubber.

RETRACTILE COIL COMMUNICATION CORDS

Neoprene jacket. Long extension.



RETRACTED LENGTHS 2 AND 4 FEET

Multi-conductor with extra flexible, tinned, soft cadmium copper with high flex life. Rated 1 amp, 120 volts. Units 2 ft. retracted are 12 ft. extended; 4 ft. retracted, 25 ft. extended. Some types (see table) have cadmium copper shield over individual conductors (rated 75 volts); shield can be pigtailed for direct solder connection. **Conductors' Color Code:** 1 = Black; 2 = White; 3 = Red; 4 = Green; 5 = Blue; 6 = Yellow; 7 = Brown.

Conductor			Shielded	Coil	Alpha	Net Ea., Lgth.	
No.	Size	Strand	Cond.	O.D., In.	No.*	2 Ft.	4 Ft.
2	23	21/36	No	3/4	680/2	$ 8.06	$14.36
3	23	21/36	No	13/16	681/2	9.99	16.97
4	23	21/36	No	15/16	682/2	11.27	19.61
5	23	21/36	No	1 1/16	683/2	15.33	26.34
6	23	21/36	No	1 1/8	684/2	18.15	34.62
7	23	21/36	No	1 1/4	685/2	19.77	37.50
1	24	41/40	Yes†	5/8	690/2	12.41	17.46
2	1–23	21/36	No‡	7/8	692/2	16.88	30.80
	1–24	41/40	Yes†				
3	2–23	21/36	No§	7/8	694/2	23.82	44.84
	1–24	41/40	Yes†				
4	2–23	21/36	No§	1	696/2	26.94	50.93
	2–24	41/40	Yes#				

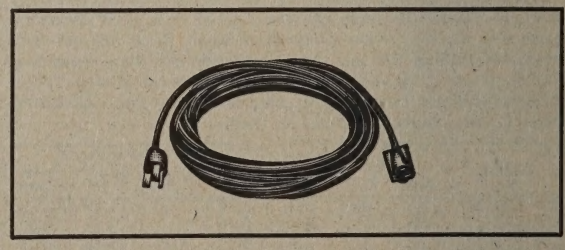
*Number shown is for 2-ft. length; for 4-ft., change suffix to /4 (i.e., 680/4). **Conductors' Color Code:** †White; ‡Black; §Black, Red; #White, Green.

MINIATURE COMMUNICATION COIL CORDS

Small diameter plastic cord with stranded tinned copper conductors for maximum flexibility. PVC insulated and jacketed. For low voltage power and communication equipment with space and weight limitations. Rated ½ amp, 100 volts. Retracted length, 2 ft.; extends approx. 10 ft. With 6″ straight lead on each end. **Conductors' Color Code:** 1 = Black; 2 = White; 3 = Green; 4 = Red.

Conductor			Shielded	Coil	Alpha	Net
No.	Size	Strand		O.D., In.	No.	Each
2	28	19/40	No	½	651	$7.98
4	28	19/40	No	½	652	9.36

EXTENSION CORD SETS



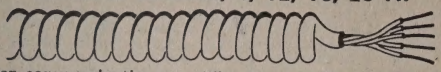
Flexible multi-conductor, black rubber cord with black molded plastic male and female plug on either end. Three-conductor type for use where one conductor requires grounding. UL and CSA Approved.

Conductor			UL	Nom.	Lgth.,	Alpha	Net
No.	Size	Strand	Type	O.D.	Ft.	No.	Each
2	18	41/34	SV	.245″	6	620	$ 1.88
2	16	26/30	SJ	.325″	10	628*	2.87
3	18	16/30	SJ	.330″	10	636	3.51
3	18	16/30	SJ	.330″	25	638	6.89
3	16	26/30	SJ	.365″	15	640	6.47
3	16	26/30	SJ	.365″	25	642	12.39
3	16	26/30	SJ	.365″	50	644	19.31

*Rated 10 amps; all others, 7 amps.

PVC RETRACTILE COMMUNICATION CORDS

RETRACTED LENGTHS, 1, 2, 3, 4 FT.
EXTENDED LENGTHS, 6, 12, 18, 25 FT.



Ideal for communications, mobile, Ham radio equipment, headsets. Eliminates hazards and inconveniences caused by tangled straight cords. Plastic retractile coil cords are durable and long lasting. Each conductor stranded tinned copper PVC insulation and PVC jacket overall. Operating temp., −20° C to +60° C. 23 AWG conductor, 31/36 strands, 120 volts, 1 amp.

UNSHIELDED

Alpha No.†	Cond. No.	Nominal Coil O.D.	Nominal Cord O.D.	Net Each, Length* 1 Ft.	2 Ft.	3 Ft.	4 Ft.
702	2	¾″	.200″	$5.09	$ 8.84	$12.17	$15.42
703	3	¾″	.210″	5.51	9.92	13.76	17.34
704	4	13⁄16″	.240″	6.26	11.42	15.84	20.00
705	5	1″	.285″	7.34	13.01	17.84	22.67
706	6	1⅛″	.305″	9.17	16.67	22.08	27.84
707	7	1¼″	.320″	9.99	18.26	24.33	30.42
708	8	1⅜2″	.360″	.....	.....	.....	43.02
710	10	1⅜2″	.380″	.....	.....	.....	50.25
712	12	1⅞2″	.410″	.....	.....	.....	68.13
715	15	1⅜2″	.470″	.....	.....	.....	74.22

*Prices shown are for 1 to 9 quantity. For quantity prices 10 and up please write for information. †Number shown is for 1-ft. length; for 2-ft. length, add /2 to number, for 3-ft. add /3, for 4-ft. add /4 (i.e., 702/2, 702/3, 702/4).

COLOR CODE OF CONDUCTORS

No.	Color	No.	Color	No.	Color	No.	Color
1	Black	5	Blue	9	White/Black	13	White/Yellow
2	White	6	Yellow	10	White/Red	14	White/Brown
3	Red	7	Brown	11	White/Green	15	White/Orange
4	Green	8	Orange	12	White/Blue		

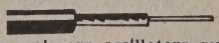
SHIELDED

Braided tinned copper shield.

Alpha No.	Std. Put-Up	Cond. No.	Coil O.D.	Shielding	Cond. Color	Net per Put-Up 1-9*
720/2	2 ft.	1	⅝″	1 Shielded	White	$16.67
722/2	2 ft.	2	⅞″	2 Shielded	White, Blk.	31.25
723/2	2 ft.	3	1″	2 Unshielded 1 Shielded	Blk., Red White	24.00
724/2	2 ft.	4	1¼″	2 Unshielded 2 Shielded	Red, Grn. White, Blk.	35.63
720/4	4 ft.	1	⅝″	1 Shielded	White	34.17
722/4	4 ft.	2	⅞″	2 Shielded	White, Blk.	60.17
723/4	4 ft.	3	1″	2 Unshielded 1 Shielded	Blk., Red White	50.00
724/4	4 ft.	4	1¼″	2 Unshielded 2 Shielded	Red, Grn. White, Blk.	77.51

*Quantity prices for 10 and up available on request.

TEST LEAD WIRE

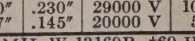


Used as test leads in analyzers, oscillators, multi-meters and test apparatus where extra flexible insulated wire is required. Heavy duty type designed for television, therapeutic equipment, analyzers, oscillators, etc. Single conductor, extra flexible stranded tinned soft annealed copper, separator, color coded rubber insulation. Smooth satin finish. Operating temp., −20° C to +60° C. Conductor size for **Numbers 1632** and **1633** is 20, balance, 18. Stock colors black and red, except **No. 1639**, black, red, green.

Alpha No.	Cond. Strand	Wall Thickness	Nom. O.D.	Voltage Breakdown†	Working Voltage	Net per Spool* 1000′	100′
1632	41/36	.040″	.125″	6000 V	1500 V	$45.02	$5.94
1635	41/36	.047″	.140″	12000 V	3000 V	46.79	6.18
1636	65/36	.045″	.140″	20000 V	5000 V	48.45	6.56
1638	65/36	.090″	.230″	29000 V	10000 V	73.80	8.78
1639*	65/36	.047″	.145″	20000 V	5000 V	55.20	7.28

*Military type spec MIL-W-13169B. †60 Hz. •Also available in 500′ spools, prices on request.

RETRACTILE TEST LEAD WIRE



RETRACTED LENGTH 12″, EXTENDED LENGTH 6 FT.

High grade quality rubber insulation for maximum flex life extruded over a single conductor of extra flexible tinned copper which gives long life. Available in 12″ retracted length with 6″ straight lead on each end. Cord extends to 6 feet. Black or red. Rated 5,000 volts.

Alpha No.	Conductor Size	Conductor Strand	Ampere Rating	Nominal Coil O.D.	Nominal Cord O.D.	Net/ Foot
650	20	41/36	4	¾″	.165″	$2.36

MEASURING AND COILING MACHINE

Easy to use, hand operated machine for measuring and dispensing small coils of wire from larger spools or coils. Consists of heavy duty measuring unit with capacity to 10,000 feet. Digital register accurately indicates feet and inches. Measuring unit has spring-loaded rollers that set for proper tension by adjusting control knob. Capacity up to one inch O.D. wire and cable. Wire winder has adjustable arms. Dispensing reel holds all diameters of spools, reels or coils.

Alpha No. WMD-1—Net Each..... **$356.71**

CABLE CLAMPS FOR WIRE, CABLE, TUBING DURABLE, LIGHTWEIGHT, NON-ABRASIVE

ETHYL CELLULOSE CLAMPS −65° F TO +175° F

All-purpose clamp has excellent corrosion, moisture and shock resistant properties. Specially treated with ultra-violet inhibitor compound for long lasting outdoor as well as inside applications.

NYLON CLAMPS −60° F TO +175° F
MIL-C-21565 (NAS), MIL-P-17091-B, MIL-P-20693, MIL-STD-24E

For high temperature applications, or for surfaces subject to vibration or mechanical stress. Inside surfaces are smooth with rounded edges to prevent jacket chafing and damage. Clamp thickness, NCL-⅛ and NCL-½, .050″; balance, .060″. Clamp width, NCL-⅛ and NCL-½, ⅜″; balance, ½″. Distance from clamp edge to mounting center, 7⁄32″.

Alpha No. Cellulose	Net Each, Lots 1000	100	Alpha No. Nylon	Net Each, Lots 1000	100	I.D. (Closed)
CCL-⅛	$23.54	$2.71	NCL-⅛	$20.00	$2.30	.115″
CCL-3⁄16	23.54	2.71	NCL-3⁄16	21.25	2.44	.172″
CCL-¼	23.54	2.71	NCL-¼	22.08	2.54	.234″
CCL-5⁄16	26.25	3.02	NCL-5⁄16	23.33	2.68	.297″
CCL-⅜	28.33	3.26	NCL-⅜	24.38	2.80	.359″
CCL-7⁄16	30.21	3.47	NCL-7⁄16	25.21	2.90	.422″
CCL-½	31.25	3.59	NCL-½	26.47	3.04	.484″
CCL-9⁄16	36.46	4.19	NCL-9⁄16	38.54	4.43	.547″
CCL-⅝	38.55	4.43	NCL-⅝	40.83	4.70	.609″
CCL-1 1⁄16	46.88	5.39	NCL-1 1⁄16	42.72	4.91	.672″
CCL-¾	51.45	5.92	NCL-¾	44.79	5.15	.734″
CCL-⅞	58.33	6.71	NCL-⅞	51.88	5.97	.859″
CCL-1	63.54	7.31	NCL-1	56.25	6.47	.984″
CCL-1⅛	72.92	8.39	NCL-1⅛	72.92	8.39	1.102″
CCL-1¼	76.05	8.75	NCL-1¼	78.13	8.99	1.227″
CCL-1⅜	79.17	9.10	NCL-1⅜	83.13	9.56	1.352″
CCL-1½	83.33	9.58	NCL-1½			1.477″

FIT-400 FEP. TEFLON* HEAT SHRINKABLE TUBING

Requires less heat. Operating temperature, 400° C. Shrinkage ratio, 2:1 (50% shrinkage). Designed for use with heat-sensitive components, solid state devices, solder joints, FEP tubing is applied as a natural, transparent tubing and requires heat of 200° F to 350° F to shrink. Stock color, natural.

Alpha No.	Size, AWG	Expanded Inside Dia.	Recovered Inside Dia.	Nom. Wall Thickness	Net/100′ Pkg.
FIT-400-24	24	.032″	.027″	.008″	$ 44.20
FIT-400-22	22	.037″	.032″	.008″	46.24
FIT-400-20	20	.046″	.039″	.008″	48.22
FIT-400-18	18	.061″	.049″	.008″	50.27
FIT-400-16	16	.076″	.061″	.009″	56.27
FIT-400-14	14	.093″	.072″	.009″	58.29
FIT-400-12	12	.116″	.089″	.009″	60.29
FIT-400-10	10	.142″	.114″	.010″	65.29
FIT-400-9	9	.159″	.124″	.010″	89.22
FIT-400-8	8	.181″	.143″	.010″	93.42
FIT-400-7	7	.198″	.158″	.011″	110.73
FIT-400-6	6	.227″	.180″	.011″	116.18
FIT-400-5	5	.249″	.198″	.011″	121.56
FIT-400-4	4	.292″	.226″	.011″	128.42
FIT-400-3	3	.312″	.249″	.011″	149.51
FIT-400-2	2	.367″	.280″	.012″	160.13
FIT-400-1	1	.400″	.311″	.012″	171.40
FIT-400-0	0	.442″	.349″	.012″	190.49

*Registered Du Pont trademark.

PACKAGED ASSORTMENTS IN 6″ LENGTHS

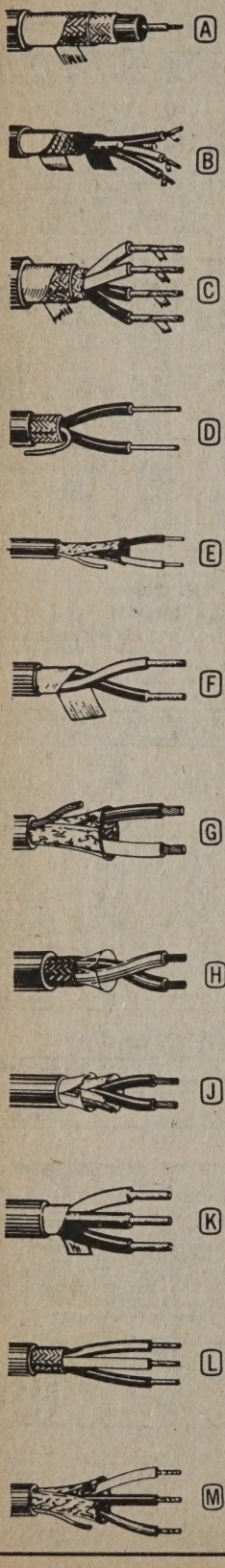
Alpha No.	Tubing Size, Range	No. Lengths per Box	Net per 100′ Pkg.
FIT-400 MS-1	400-24–400-9	18	$3.80
FIT-400 MS-2	400-8–400-0	18	9.62

FIT-521 SURFACE IRRADIATED POLYOLEFIN TERMINAL SLEEVES SHRINKS AND MELTS

Flame-retardant polyolefin tubing selectively cross-linked. When heat of 135° C is applied, inner wall melts while outer wall shrinks down. Terminal becomes completely encapsulated and insulated in a hard, tough molding. One size fits most applications. 4½ to 1 shrinkage ratio. Black only. Fungus, solvent, oil and water resistant. Tensile strength, 1500 psi. Low temperature flex, no cracking at −55° C. Min. expanded I.D. as supplied, .315″. Max. recovered I.D., .070″. Longitudinal shrinkage, 15% max. Flammability, ASTMD-876.

Alpha No.*	Length	No. of Lengths	Total Footage	Net Each
FIT-521	4 ft.	25	100 ft.	$157.08
FIT-521	½ in.	600	25 ft.	67.02
FIT-521	1 in.	300	25 ft.	53.17

*Specify length required.



MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Great abrasion and impact resistance; extra limp so cable lies flat. **No. 8410:** 3 strands copper, 4 strands Copperweld® tinned, cellulose yarn braid, rubber insul., rayon braid, tinned copper braid shield, cellulose yarn wrap, black rubber jacket. **Nos. 8406 and 8413:** Tinned cadmium bronze, cotton serve, rubber insulated, cabled with fillers, 100% coverage conductive textile wrap shield, tinned copper braid shield, cotton serve, black rubber jacket. **All Others:** Tinned copper, cotton wrap, rubber insulated, conductors cabled, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket. **Conductor Color Coding: 1,** white; **2,** black; **3,** red; **4,** green; **5,** blue; **6,** brown; **7,** yellow; **8,** orange.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Cap.,* pF/ft.	Nom. O.D.	Net Each, Spool of 15′	25′	50′	100′	250′	500′	1000′
8410	A	1	25 (7 x 33)	33	.245″	.....	$6.00	$10.50	$19.35	$ 44.80	$ 89.55	.....
8413‡	B	2	24 (45 x 40)	55	.190″	$3.98	6.05	11.20	20.55	49.05	98.05	.....
8406‡	B	3	24 (45 x 40)	60	.223″	.....	.....	.....	26.80	.....	128.40	.....
8412	C	2	20 (26 x 34)	55	.268″	.....	6.50	11.70	22.35	51.00	101.95	$203.85
8402†•	C	2	20 (26 x 34)	55	.268″	.....	.....	.....	23.20	55.45	110.80	.....
8428#	C	2	18 (41 x 34)	60	.295″	.....	.....	.....	29.25	.....	134.95	269.85
8408†•	C	2	16 (65 x 34)	55	.385″	.....	.....	.....	40.15	60.00	193.60	.....
8423	C	3	20 (26 x 34)	60	.277″	.....	.....	13.45	24.55	57.60	115.15	230.25
8424	C	4	20 (26 x 34)	60	.295″	.....	.....	14.70	27.60	64.95	129.90	259.80
8407#•	C	4	16 (65 x 34)	55	.422″	.....	.....	.....	46.45	114.25	.....	.....
8425	C	5	20 (26 x 34)	60	.323″	.....	.....	.....	33.45	81.85	.....	.....
8426	C	6	20 (26 x 34)	60	.349″	.....	.....	.....	41.20	100.80	.....	.....
8427	C	7	20 (26 x 34)	60	.360″	.....	.....	.....	44.85	109.75	.....	.....
8418	C	8	20 (26 x 34)	60	.386″	.....	.....	.....	50.80	123.00	.....	.....

*Capacitance between one conductor and remaining conductors (if any) connected to shield. †Brown Hypalon® jacket; 8408 has heavy duty brown Hypalon jacket. ‡Miniature cable. #Black neoprene jacket; 8407 has heavy duty black neoprene jacket. •Passes the FR-1 vertical flame test.

BROADCAST AUDIO CABLES

Nos. 8437 and 8441: Tinned copper, vinyl insulated, conductors cabled, 8441 stranded, and 8437 solid tinned copper drain wire, tinned copper braid shield, black vinyl jacket. **Nos. 8450, 8451 and 9451:** Tinned copper, polypropylene insulated, conductors cabled, stranded tinned copper ground drain wire, Beldfoil® aluminum-polyester shield, paper wrap, black or gray vinyl jacket (specify); **No. 9451,** gray vinyl jacket only. Jacket and shield on No. 9541 are bonded so both can be removed on automatic stripping equipment. All types are 2-conductor. **Color Coding:** Black, red.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Cap.* pF/ft.	Work Volts	Net Each, Spool of 100′	250′	500′	1000′
8437•	D	22 (Solid)	.200″	85	200	.....	.....	$41.65	$83.25
8441•	D	22 (16 x 34)	.210″	86	200	$10.35	.....	45.60	91.20
8450†•	E	22 (Solid)	.118″	76	200	6.85	$12.40	24.75	49.45
8451†•	E	22 (7 x 30)	.135″	67	200	7.35	14.40	28.80	57.60
9451	E	22 (7 x 30)	.135″	67	200	.....	.....	31.50	62.10

*Between one conductor and other conductor connected to shield. †Miniature. ‡In self dispensing Convert-a-pak™. •Passes the FR-1 vertical flame test.

TWO CONDUCTOR SHIELDED CABLE

Variety of gauges, insulations, shieldings and jackets meet every service requirement. Uniform quality for dependable service. **Fig. F Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield, chrome vinyl jacket. **Fig. G Types:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, stranded tinned copper drain wire (24 AWG for 8641, 22 AWG for 8761, 20 AWG for 8760 and 8762, 18 AWG for 8719, 16 AWG for 8720 and 14 AWG for 8718), chrome vinyl jacket. **Fig. H Type:** Tinned copper, rubber insulated, conductors cabled, separator, braided tinned copper shield, chrome vinyl jacket. **Fig. J Type:** Balanced pair instrumentation cable featuring short lay cabling to minimize pick-up of electromagnetic interference and special conductive textile tape to minimize microphonic noise. Tinned copper, polypropylene insulated, conductors cabled, noise reducing tape, 24 AWG stranded tinned copper drain wire, Beldfoil aluminum-polyester shield, black vinyl jacket. **No. 9154** similar to **Fig. G,** except vinyl insulated, twisted pair, 22 AWG wire, rose gray vinyl jacket; UL Listed (Style 2094).

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Coding	Cap.,* pF/ft.	Work Volts	Net Each, Spool of 100′	250′	500′	1000′
8739•	F	22 (Solid)	.160″	Blk, red	66	350	$ 6.85	.....	$ 28.75	$57.45
8737•	F	22 (7 x 30)	.170″	Blk, red	70	350	7.35	$15.85	31.65	63.30
8759•	F	20 (7 x 28)	.195″	Blk, red	79	350	9.25	.....	37.15	74.25
8790•	F	18 (7 x 26)	.231″	Red, wht	92	450	11.50	24.55	49.00	97.95
8780•	F	16 (19 x 29)	.266″	Blk, wht	98	450	14.40	.....	63.30	126.60
8641	G	24 (7 x 32)	.160″	Blk, clear	42	350	6.30	.....	25.45	50.85
8761	G	22 (7 x 30)	.167″	Blk, clear	47	350	.....	.....	26.10	52.20
8762	G	20 (7 x 28)	.196″	Blk, clear	49	350	8.05	16.45	32.80	65.55
8760	G	18 (16 x 30)	.222″	Blk, clear	44	450	.....	19.65	39.30	78.60
8719	G	16 (19 x 29)	.274″	Blk, clear	47	600	.....	.....	58.20	116.40
8720	G	14 (19 x 27)	.340″	Blk, clear	47	750	.....	.....	88.65	177.30
8718	G	12 (19 x 25)	.400″	Blk, clear	49	1000	.....	.....	133.20	266.40
9154	G	20 (7 x 28)	.194″	Blk, red	100	300	.....	.....	32.80	65.55
8208	H	18 (16 x 30)	.255″	Red, wht	77	200	14.80	.....	65.05	130.05
9452	J	24 (19 x 36)	.135″	Blk, red	58	200	7.60	.....	30.90	61.80

*Between one conductor and other conductor connected to shield. •Passes the FR-1 vertical flame test.

THREE CONDUCTOR SHIELDED CABLES

Three conductor cable with three conductors shielded; #30 thru #16 gauge. **Fig. K Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield. Chrome vinyl jacket. **Fig. L Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper braid shield. Chrome vinyl jacket. No. 8643: Same, but polypropylene insulated conductors cabled around textile strength member. Operating temperature, 105° C max. **Fig. M Types:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, stranded tinned copper ground drain wire (22 AWG for 9770 and 8771, 20 AWG for 8770 and 8772, 18 AWG for 8618), chrome vinyl jacket. **Color Coding:** Black, red and white except 8771, 8772, 8770 and 8618, black, red and clear.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Cap.,* pF/ft.	Working Volts	Net Each, Spool of 15′	50′	100′	500′	1000′
8731	K	22 (Solid)	.178″	63	350	.....	.....	.....	$33.70	$ 67.35
8791	K	18 (7 x 26)	.236″	84	450	.....	.....	$14.10	62.05	124.05
8735	L	22 (7 x 30)	.199″	60	350	$2.24	$5.90	10.15	42.75	85.50
8643	L	30 (7 x 38)	.086″	43	200	.....	4.50	11.95	27.75§	.....
8618	M	16 (19 x 29)	.300″	50	600	.....	.....	.....	77.85	155.70
8771	M	22 (7 x 30)	.175″	41	350	.....	.....	16.45§	32.80	65.50
8772	M	20 (7 x 28)	.200″	51	350	.....	.....	.....	41.40	82.80
8770	M	18 (16 x 30)	.236″	48	450	.....	.....	.....	52.75	105.45
9770‡	M	22 (7 x 30)	.145″	60	200	.....	.....	18.45§	36.85	73.65

*Capacitance between one conductor and other conductors connected to shield. §250′. ‡Polypropylene insulated and has brown vinyl jacket.

®TM: Beldfoil of Belden; Hypalon of DuPont; Copperweld of Copperweld Steel Co.

BELDEN Electronic Wire and Cable

TWO CONDUCTOR UNSHIELDED CABLES

All purpose cable for sound, intercom and alarm systems in a variety of sizes and insulations. Uniform quality and size for dependable service, easy installation. **Fig. A Types:** Copper, vinyl insulated, cabled. **Fig. B Types:** Copper, vinyl insulated, cabled, chrome vinyl jacket. **Fig. C Types:** Copper, vinyl insulated, chrome colored jacket, parallel cable. All conductors tinned except as noted.

Belden No.	Fig.	AWG and (Stranding)	Colors ‡	Nom. O.D.	Suggested Work Volts	Net Each, Spool of 25′	100′	500′	1000′
8481*	A	22 (Solid)*	1	.112″	350	.....	$3.42	$11.10	$ 22.20
8482*	A	19 (Solid)*	1	.130″	350	.....	4.47	16.45	32.85
8492*	A	19 (Solid)†	2	.170″	600	.....	.....	.....	38.10
8460*	A	18 (7 x 26)	3	.175″	450	.....	6.55	25.60	51.15
8470*	A	16 (19 x 29)	3	.195″	600	.....	.....	32.40	64.80
9151#	A	22 (7 x 30)†	2	.108″	300	.....	.....	12.85	25.65
9152#	A	20 (10 x 30)†	2	.125″	300	.....	.....	15.70	31.35
9153#	A	18 (16 x 30)†	2	.142″	300	.....	.....	21.40	42.75
8442*	B	22 (7 x 30)	4	.165″	350	.....	.....	17.95	35.85
8205*	B	20 (10 x 30)	4	.190″	350	.....	5.75	21.10	42.15
8486*	B	19 (Solid)*	1	.162″	350	.....	.....	20.25	40.50
8461#*	B	18 (7 x 26)	3	.226″	450	.....	7.75	31.30	62.55
9740*	B	18 (16 x 30)	4	.220″	400	.....	.....	31.50	63.00
8471*	B	16 (19 x 29)	3	.256″	600	.....	.....	42.40	84.75
8473*	B	14 (19 x 27)	3	.332″	600	.....	.....	67.30	134.55
8477*	B	12 (19 x 25)	3	.384″	600	.....	.....	94.65	189.30
8782	C	24 (7 x 32)†	5	.058 x .115	300	$1.91§	2.82	9.40	18.75
8781*	C	22 (Solid)†	.....	.060 x .120	100	.....	3.14	9.30	18.60
8649*	C	20 (7 x 28)†	6	.073 x .146	300	.....	4.35	15.60	31.20

*Bare. †One cond. tinned. ‡Colors: 1—Brn, tan; 2—specify wht or brn; 3—blk, wht; 4—blk, red; (jacket color) 5—specify chrome, sand, clear or wht; 6—chrome, clear. §50′, **$1.73.** #UL Listed.

THREE CONDUCTOR UNSHIELDED CABLES

Three conductor unshielded cables of high quality for intercom, control line and many other applications. **Fig. D Type:** Bare copper, vinyl insulated and cabled. **Fig. E Types:** Copper, vinyl insulated, cabled. Chrome vinyl jacket. **Fig. F Types:** Copper, vinyl insulated, parallel cable.

8483*	D	19 (Solid)	6	.132″	350	.....	$5.90	$23.70	$ 47.40
8443*	E	22 (7 x 30)*	7	.150″	200	$2.07	11.05§	22.05	44.10
8487*	E	19 (Solid)	6	.180″	350	.....	.....	29.05	58.05
8701*	F	22 (Solid)†	8	.060 x .190	100	.....	4.32	15.85	31.65
8475*	F	16 (19 x 29)	9	.102 x .295	300	.....	12.40	56.65	.....
8476*	F	16 (19 x 29)	10	.102 x .400	.....	.....	15.75	74.85	.....

*Tinned. †One conductor tinned. ‡Colors: 6, brown, gray, tan; 7, black, green, red; 8, chrome; 9, white, brown, red. §250′, **$10.00.**

VINYL MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Low capacitance and loss; lightweight; small size. **Nos. 8401 and 8411:** 3 strands copper, 4 strands Copperweld® tinned, cellulose yarn braid, polyethylene insulated, tinned copper braid shield, chrome vinyl jacket. **No. 8434:** 3 strands copper, 4 strands Copperweld, tinned, polyethylene insulated, black and red conductors under Beldfoil® ISO-Shield™, stranded ground wire, green and clear conductors under overall Beldfoil ISO-Shield, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. **No. 8420:** Tinned cadmium bronze, cotton wrap, polyethylene insulated, cabled with fillers, rayon braid, tinned copper braid shield, chrome vinyl jacket. **No. 8723:** Tinned copper, polypropylene insulated, black and red under Beldfoil ISO-Shield, green and white under Beldfoil ISO-Shield, stranded tinned copper common drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce dia. **No. 8729:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil ISO-Shield, three 23 AWG solid tinned Copperweld, one 25 AWG stranded tinned Copperweld drain wires, white vinyl jacket. Conductors color-coded red, black, green and clear. **All Others:** Tinned copper, polyethylene insulated, conductors cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Cap.,* pF/ft.	Nom. O.D.	Net Each, Spool of 15′	25′	50′	100′	250′	500′	1000′
8411	G	1	25 (7 x 33)	40	.144″	$1.85	$2.67	$ 4.22	$ 8.05	$16.35	$ 32.70	$ 65.40
8401	G	1	25 (7 x 33)	25	.200″	2.27	3.08	5.45	10.00	20.95	41.80	83.55
8420†*	H	2	24 (45 x 40)	40	.185″	3.27	4.80	7.45	13.95	32.40	64.75	.....
8422	I	2	22 (16 x 34)	32	.231″	2.87	4.35	8.35	14.50	31.20	62.35	124.65
8403*	I	3	20 (26 x 34)	45	.244″	4.14	.....	10.75	20.25	44.80	89.55	179.10
8404*	I	4	20 (26 x 34)	40	.255″	4.47	.....	.....	21.75	49.30	98.55	197.10
8405*	I	5	20 (26 x 34)	40	.275″	.....	.....	.....	.....	57.70	115.30	230.55
8434	J	4	25 (7 x 33)	40	.165″	.....	.....	.....	10.30	.....	45.45	90.90
8723	K	4	22 (7 x 30)	62	.165″	.....	.....	.....	10.50	.....	45.75	91.50
8729	L	4	22 (19 x 34)	42	.265″	.....	.....	.....	.....	.....	73.35	146.70

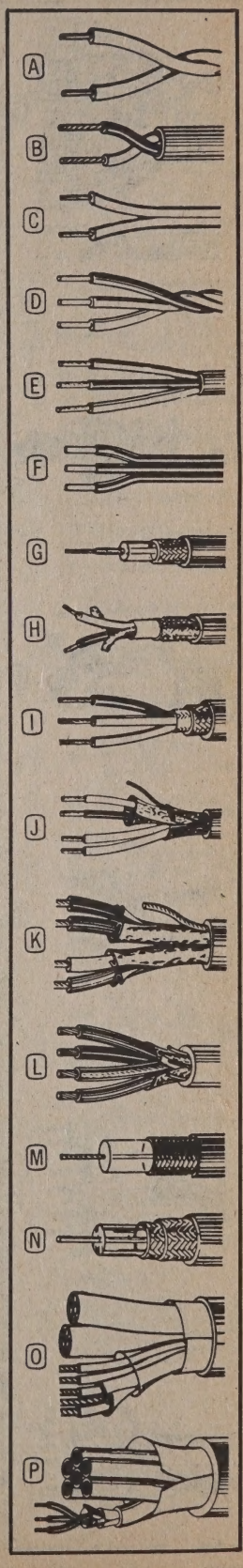
*Between one conductor and remaining conductors (if any) connected to shield. †Miniature.

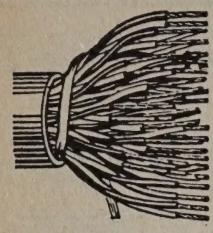
75-OHM PRECISION VIDEO CABLES

High quality carrier of video signal in color or monochrome studios; 100% sweep tested.
Belden No. 8279 (Fig. M)—Has 23 (7 x 31) bare compacted conductor, polyethylene insulated, tinned copper braid shield, black polyethylene jacket. Nom. impedance, 75 ohms. Nom. capacitance, 21 pF/ft. Nom. O.D., .220″; fits RG-59/U connectors.
100′ Spool, Net..... **$16.75** **250′ Spool,** Net..... **$36.45** **500′ Spool,** Net..... **$72.85**
Belden No. 8281 (Fig. N)—Has 20 (solid) copper conductor, polyethylene insul., tinned copper double braid shield, black polyethylene jkt. Nom. imped., 75 ohms. Nom. cap., 21 pF/ft. Nom. O.D., .304″.
500′ Spool, Net..... **$155.25** **1000′ Spool,** Net..... **$310.50**
Belden No. 9231* (Fig. N)—Same as 8281 except gray non-contaminating vinyl jacket.
500′ Spool, Net..... **$161.70** **1000′ Spool,** Net..... **$323.40**
Belden No. 8299 Adapter—Use with PL-259 connector and 8281, 9231 cable only. Net/25... **4.95**

AUDIO, COMMUNICATION AND INSTRUMENTATION CABLES

Multiple Quads Audio and Communication Cables (Fig. O): Polypropylene insulation, 22 AWG (7 x 30) tinned copper, cabled in quads, Beldfoil ISO-Shield over black and red conductors, 24 AWG stranded tinned copper drain wire, clear polyester tape over entire quad, shields color-coded, chrome vinyl jacket. Nom. capacitance, 67 pF/ft. between one conductor and other conductors connected to shield. Nom. O.D., .330″ No. 8726; .450″ No. 8727. Cabled around common axis; request information before planning high and low level circuits in same cable.
Belden No. 8726—100′ Spool, Net... **$32.25** **500′ Spool,** Net... **$147.15** **1000′ Spool,** Net... **$294.30**
Belden No. 8727—100′ Spool, Net... **66.10** **500′ Spool,** Net... **326.85** **1000′ Spool,** Net... **653.70**
Multiple Triplets Audio, Communication and Instrumentation Cables (Fig. P): Tinned copper, polypropylene insulated, 22 AWG (7 x 30) conductors cabled in triplets, each shielded with Beldfoil ISO-Shield, 22 AWG stranded tinned copper drain wire, .020″ white vinyl jacket, individual triplet jackets identified by color-coded stripes, triplets cabled, overall chrome vinyl jacket. Nom. capacitance, 60 pF/ft. between one conductor and other conductors connected to shield. Insulation, .008″ th. Working voltage, 300 V suggested. Conductors color coded black, red and green.
Belden No. 9771*—21 conductors (7 triplets); .550″ nom. diameter. **500′ Spool,** Net..... **$314.85**
Belden No. 9772*—36 conductors (12 triplets); .740″ nom. diameter. **500′ Spool,** Net..... **534.10**
Telephone Cables (Fig. B): Bare copper 22 AWG (solid), polyethylene insulated, conductors cabled, rose gray vinyl jacket. Insulation, .016″ thick; jacket, .022″ thick.
Belden No. 8795—Two conductor color-coded red, green. Nom. O.D., .160″.
500′ Convert-a-Pak, Net..... **$17.25** **1000′ Spool,** Net..... **$34.50**
Belden No. 8794—Three conductor color-coded red, green, yellow. Nom. O.D., .168″.
500′ Convert-a-Pak, Net..... **$21.45** **1000′ Spool,** Net..... **$42.90**
Belden No. 9794—Four conductor color-coded green, red, yellow, black. Nom. O.D., .190″; jacket, .025″ th. **500′ Convert-a-Pak,** Net..... **$26.50** **1000′ Spool,** Net..... **$52.95**
®TM: Beldfoil of Belden; Copperweld of Copperweld Steel Co. *Passes the FR-1 vertical flame test.




A

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C

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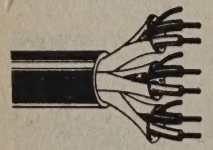
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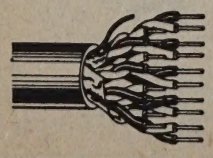

F

MULTIPLE PAIR UNSHIELDED SOUND CABLES (FIG. A)

Made with 80° C vinyl plastic compounds for high dielectric strength and best physical properties. Conductors are paired with a short-lay twist for conductor balance. Tinned copper, vinyl insulated, cabled in color-coded pairs, chrome vinyl jacket. Voltage, 200 V working except 18 gauge, 400 V.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
8740•	1	22 (Solid)	.150″	$ 4.22	$ 15.10	$ 30.15
9740•	1	18 (16 x 30)	.220″	.....	31.50	63.00
8741•	2	22 (Solid)	.201″	7.10	28.30	56.55
9744•	2	22 (7 x 30)	.230″	.....	33.30	66.60
9156	2	18 (16 x 30)	.241″	.....	60.85	121.65
9750	3	20 (10 x 30)	.301″	13.75	61.90	123.75
8742•	3	22 (Solid)	.240″	9.40	39.45	78.90
9745•	3	22 (7 x 30)	.280″	.....	49.45	98.85
8690•	3	18 (16 x 30)	.362″	21.15	94.80	189.60
8757•	4	22 (Solid)	.255″	.....	52.35	104.70
9746•	4	22 (7 x 30)	.295″	.....	63.25	126.45
9157	4	18 (16 x 30)	.353″	.....	114.55	229.05
9158	5	22 (Solid)	.298″	.....	62.95	125.85
9159	5	18 (16 x 30)	.409″	.....	151.95	303.90
9751	6	20 (10 x 30)	.370″	25.65	117.10	234.15
8743•	6	22 (Solid)	.305″	15.40	69.60	139.20
8747•	6	22 (7 x 30)	.320″	18.55	85.00	169.95
8691•	6	18 (16 x 30)	.550″	43.50	198.55	397.05
9160	8	22 (Solid)	.336″	.....	97.35	194.70
9161	8	18 (16 x 30)	.469″	.....	245.35	490.65
9752	9	20 (10 x 30)	.447″	37.95	177.85	355.65
8744•	9	22 (Solid)	.354″	22.45	104.20	208.35
8748•	9	22 (7 x 30)	.389″	27.70	130.30	260.55
8692•	9	18 (16 x 30)	.638″	61.20	289.50	579.00
8753•	11	22 (Solid)	.384″	28.45	134.25	268.50
9747•	12	22 (7 x 30)	.440″	.....	179.25	358.50
9741•	12	18 (16 x 30)	.690″	.....	384.00	768.00
8754•	13	22 (Solid)	.409″	31.90	151.60	303.15
9755	15	20 (10 x 30)	.535″	59.80	277.00	553.95
8745•	15	22 (Solid)	.420″	38.55	179.65	359.25
8749•	15	22 (7 x 30)	.455″	46.35	219.10	438.15
9742•	15	18 (16 x 30)	.800″	.....	479.55	959.10
8755•	19	22 (Solid)	.480″	.....	224.55	449.10
9748•	19	22 (7 x 30)	.520″	.....	275.85	551.70
9743•	19	18 (16 x 30)	.880″	.....	605.70	1211.40
8756•	23	22 (Solid)	.510″	.....	272.10	544.20
9749•	23	22 (7 x 30)	.570″	.....	354.30	708.60
8746‡•	27	22 (Solid)	.550″	.....	.73†	620.10
8750‡•	27	22 (7 x 30)	.595″	.....	.97†	827.55

*In self-dispensing Convert-a-Pak. †Less than 1000′, per foot. ‡Available 250′, 500′, 1000′ or 2000′ spools: All spools one piece; lengths may vary +20%, −0%. •Pass FR-1 vertical flame test.

UNSHIELDED SOUND CABLES

Belden No. 8751 (Fig. B)—51 pairs of shielded cable, #22 solid tinned copper, vinyl insulated, Beldfoil ISO-Shield™ over color-coded cabled pairs, #22 (7 x 30) stranded ground drain wire, chrome vinyl jacket. Working volts, 200. Nom. O.D., .700″. Specify length§.
1000 ft., Net..... **$1608.00**
Less than 1000′, per ft. **1.88**

Belden No. 9753 (Fig. C)—Same as 8751 except: 102 pairs; nom. O.D., 1.100″. Specify length§.
1000 ft., Net..... **$3110.55**
Less than 1000′, per ft. **3.63**
§Available 250′, 500′, 1000′ or 1500′ spools: All spools one piece; lengths may vary +20%, −0%.

Belden No. 8752 (Fig. B)—38 pairs of shielded cable, same as 8751 but polypropylene insulated. Nom. O.D., .600″. Specify length♦.
1000 ft., Net..... **$1366.65**
Less than 1000′, per ft. **1.60**
♦Available 250′, 500′ or 1000′ spools: All spools one piece; lengths may vary +20%, −0%. Above cables pass FR-1 vertical flame test.

WRITE FOR COLOR CODING

MULTIPLE PAIR INDIVIDUALLY SHIELDED CABLES (FIG. D)

Conductors 22 gauge vinyl or 18 and 22 gauge polypropylene insulated, cabled in color-coded pairs, each pair and its ground wire under Beldfoil® ISO-Shield (thin layer of aluminum bonded to a polyester film), overall chrome vinyl jacket. Working voltage, 300 V, 22 AWG; 350 V, 20 AWG; 400 V, 18 AWG. Nom. capacitance between conductors, 77 pF/ft., vinyl; 55 pF/ft., polypropylene. Pass FR-1 vertical flame test.

*Vinyl; all others polypropylene insulation. †Also available in 250′ and 500′. All spools one piece; lengths may vary +20%, −0%.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	250′	500′	1000′
8767*	3	22 (Solid)	.279″	$17.05	$ 26.10	$ 77.25	$ 154.50
8768*	6	22 (Solid)	.394″	34.75	54.55	161.25	322.50
8764*	9	22 (Solid)	.440″	47.20	77.25	229.20	458.40
8765*	11	22 (Solid)	.485″	56.80	92.25	272.05	544.05
8766*	15	22 (Solid)	.540″	78.25	126.00	372.45	744.90
8777	3	22 (7 x 30)	.265″	19.20	44.95	89.80	179.55
8778	6	22 (7 x 30)	.394″	38.95	94.25	188.40	376.80
8774	9	22 (7 x 30)	.440″	63.10	138.25	276.40	552.75
8775	11	22 (7 x 30)	.485″	68.70	163.80	327.60	655.20
9768	12	22 (7 x 30)	.485″	74.95	175.60	351.10	702.15
8776	15	22 (7 x 30)	.540″	90.15	217.00	433.90	867.75
9769	17	22 (7 x 30)	.610″	109.60	252.90	505.80	1011.60
8769	19	22 (7 x 30)	.620″	122.35	289.50	579.00	1158.00
8773†	27	22 (7 x 30)	.760″	168.25	.....	.....	1647.00
9873	3	20 (10 x 30)	.330″	23.85	54.10	108.20	216.15
9874	6	20 (10 x 30)	.470″	47.85	109.65	219.25	438.45
9875	9	20 (10 x 30)	.530″	70.80	159.85	359.65	639.30
9876	11	20 (10 x 30)	.555″	83.20	192.25	384.40	768.75
9877	12	20 (10 x 30)	.575″	89.40	206.85	413.65	827.25
9878	13	20 (10 x 30)	.610″	95.70	221.55	443.05	886.05
9879	15	20 (10 x 30)	.650″	108.10	250.35	500.70	1001.40
9773	3	18 (16 x 30)	.372″	.....	.....	138.70	277.35
9774	6	18 (16 x 30)	.555″	.....	.....	283.65	567.30
9775	9	18 (16 x 30)	.620″	.....	.....	427.90	855.75
9776	12	18 (16 x 30)	.765″	.....	.....	569.55	1139.10
9777	15	18 (16 x 30)	.830″	.....	.....	710.10	1420.20

MULTIPLE PAIR INDIVIDUALLY SHIELDED DIRECT BURIAL, AUDIO AND DATA CABLE (FIG. E)

Especially designed for direct burial installation. Tinned copper, polypropylene insulated, Beldfoil aluminum-polyester shield over individually twisted pairs with 22 AWG stranded tinned copper drain wire, black high density polyethylene jacket.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
9883	3	20 (10 x 30)	.340″	.....	$114.30	$228.60
9886	6	20 (10 x 30)	.480″	.....	240.75	481.50

MULTIPLE PAIR SHIELDED SOUND AND CONTROL CABLE (FIG. F)

Tinned copper, vinyl insulated twisted pairs, overall Beldfoil aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. UL Listed.

9302	2	22 (Solid)	.211″	$ 8.35	$ 35.10	$ 70.20
9306	6	22 (Solid)	.315″	16.90	77.10	154.20
9309	9	22 (Solid)	.364″	24.45	111.25	222.45
9315	15	22 (Solid)	.430″	42.90	197.95	395.85
9319	19	22 (Solid)	.455″	52.95	243.10	486.15
9327	27	22 (Solid)	.560″	71.70	330.45	660.90

DATA AND INSTRUMENTATION CABLES

Belden No. 9640* (Fig. A)—28 AWG solid copper, Geosol™ insulated, conductors cabled, 3 conductor group (blk, red, blue) shielded from 2 conductor group (grn, wht), overall Beldfoil® ISO-Shield™, white vinyl jacket. Nom. O.D., .087″; nom. cap. between cond., 60 pF/ft. WV, 100V.
25′ Spool, Net.....$ 3.32 **50′ Spool,** Net.....$ 5.70
500′ Spool, Net.....28.35 **1000′ Spool,** Net.....56.70

Belden No. 9784* (Fig. B)—Six pair; 24 AWG (7 x 32) stranded tinned copper, foam polypropylene insulation, cond. cabled, each pair individually Beldfoil ISO-Shielded with 24 AWG drain wire, chrome vinyl jacket. Nom. O.D., .494″; nom. cap. between cond., 12 pF/ft. WV, 60 V.
500′ Spool, Net.....$186.00 **1000′ Spool,** Net.....$372.00

Belden No. 8725* (Fig. B)—Four pair; 20 AWG (7 x 28) tinned copper cond., polypropylene insulated, four groups of 2 conductors with 22 AWG drain wire. Each group individually Beldfoil ISO-Shielded with polyester tape wrap, chrome vinyl jacket. Nom. O.D., .360″; cap. between cond., 27 pF/ft. WV, 400 V. Cabled around common axis. **500′ Spool,** Net..$178.95 **1000′ Spool,** Net..$357.90

Belden No. 8700 (Fig. C)—28 AWG (Solid) tinned copper, polypropylene insul., bare copper braid shield, black vinyl jacket. Shield coverage, 91%. Nom. O.D., .054″. Nom. cap., 48 pF/ft.
25′ Spool, Net..$3.36 **50′ Spool,** Net..$5.65 **100′ Spool,** Net..$9.60 **250′ Spool,** Net..$22.30

Belden No. 9754 (Fig. D)—26 AWG (Solid) silver coated cadmium copper, semi-solid flame retardant polyethylene insulation, Beldfoil ISO-Shield with two silver coated cadmium copper drain wires, gray vinyl jacket. Nom. O.D., .166″. Nom. capacitance, 13.5 pF/ft.
500′ Spool, Net.....$47.85 **1000′ Spool,** Net.....$95.70

Belden No. 9272 (Fig. E)—Two 20 AWG (7 x 28) tinned copper cond., polyethylene color coded insulation, tinned copper braid shield, blue vinyl jacket. Nom. O.D., .242″; cap., 19.7 pF/ft.
100′ Spool, Net.....$13.60 **500′ Spool,** Net.....$54.90 **1000′ Spool,** Net.....$109.80

Belden No. 9271 (Fig. F)—Two 28 (Solid) tinned copper cond., polyethylene color coded insulation Beldfoil ISO-Shield with stranded tinned copper drain wire, blue vinyl jacket. Nom. cap., 12.2 pF /ft. 25 AWG (7 x 33); nom. O.D., .242″.
100′ Spool, Net.....$7.30 **500′ Spool,** Net.....$29.20 **1000′ Spool,** Net.....$58.35

HI-FI, STEREO AND PHONOGRAPH CABLES

Belden No. 8430* (Fig. G)—Phono arm cable has two 32 AWG, 7 x 40 stranded, tinned copper conductors, vinyl insulated, twisted pair. O.D., .050″ nominal. Coded black, red. Capacitance, 21 pF/ft., nom.
10′ Spool, Net.....$1.19 **25′ Spool,** Net.....$1.67 **250′ Spool,** Net.....$9.70

Belden No. 9435* (Fig. G)—Same as 8430 except: Three conductors color coded blk, red, wht; O.D., .058″ nom.; capacitance between conductors 22 pF/ft.
10′ Spool, Net.....$1.67 **25′ Spool,** Net.....$2.37 **100′ Spool,** Net.....$5.70

Belden No. 9436* (Fig. G)—Same as 8430 except: Four conductors color coded blk, red, wht, grn; O.D., .065″ nom.; capacitance between conductors 22 pF/ft.
10′ Spool, Net.....$2.06 **25′ Spool,** Net.....$2.93 **100′ Spool,** Net.....$6.80

Belden No. 8429* (Fig. H)—Phono arm cable same as above, but with tinned copper braid shield. Capacitance 50 pF/ft. one conductor to other conductor and shield. Nom. O.D., .057″.
10′ Spool, Net.....$1.59 **25′ Spool,** Net.....$2.63 **250′ Spool,** Net.....$17.85

Belden No. 8419* (Fig. H)—Similar to the above but has three conductors for three-wire systems. Capacitance one cond. to other cond. and shield, 50 pF/ft. O.D., .067″ nom. Coded blk, red, wht.
10′ Spool, Net.....$1.74 **25′ Spool,** Net.....$3.11 **250′ Spool,** Net.....$22.00

Belden No. 9437* (Fig. H)—Same as 8429 except 4 cond. color coded blk, red, wht, grn. Nom. O.D., .072″.
10′ Spool, Net.....$2.19 **25′ Spool,** Net.....$3.54 **100′ Spool,** Net.....$10.65

Belden No. 8431 (Fig. I)—Single 24 AWG, 16 x 36 stranded, tinned copper cond., rubber insul., with tinned copper braid shld. and brown cotton braid overall. O.D., .095″ nom. Cap., 96 pF/ft. nom.
10′ Spool, Net..$1.52 **15′ Spool,** Net..$1.91 **25′ Spool,** Net..$2.48 **100′ Spool,** Net..$7.95

Belden No. 8421 (Fig. J)—Hi-Fi connecting cable has single 25 AWG, 7 x 33 stranded of 3 strands tinned copper, 4 strands tinned Copperweld; cellular polyethylene insulated for low loss, tinned copper spiral wrapped shield and overall chrome vinyl jacket. O.D., .180″ nominal. Capacitance, 18 pF/ft., nominal. **15′ Spool,** Net.....$2.21 **25′ Spool,** Net.....$2.97 **50′ Spool,** Net.....$ 5.35
100′ Spool, Net.....$8.80 **250′ Spool,** Net.....19.60

Belden No. 8416 (Fig. K)—Stereo, language lab. Same as 8421 except: Polyethylene insulated; color coded red, clear (polarity rib on red); individually shielded. O.D., .106″ x .213″. Nom. cap., 35 pF/ft. between conductors, each channel. **15′ Spool,** Net.....$2.57 **25′ Spool,** Net.....$ 3.21
50′ Spool, Net.....$6.00 **100′ Spool,** Net.....$10.60 **250′ Spool,** Net.....23.95

Belden No. 8417* (Fig. L)—Min. audio connecting cable, totally shielded. Same as 8416 except single cond. with double Beldfoil ISO-Shield, inner shield folded, 26 AWG stranded tinned copper, grd. drain wire. Nom. O.D., .140″. Nom. cap., 25 pF/ft. between cond. **15′ Spool,** Net.....$ 2.06
25′ Spool, Net $2.45 **50′ Spool,** Net $3.78 **100′ Spool,** Net $7.15 **250′ Spool,** Net 15.55

Belden No. 9264 (Fig. V)—Hi-fi cable has one 24 AWG, 7 x 32 stranded conductor, flame retardant polyethylene insulated, Beldfoil aluminum-polyester shield, white vinyl jacket. Nom. O.D., .122″. Nom. impedance, 50 ohms. Nom. cap between cond's., 34 pF/ft. UL Listed. **100′ Spool,** Net..$ 6.50
250′ Spool, Net.....$13.90 **500′ Spool,** Net.....$27.75 **1000′ Spool,** Net.....55.50

SPECIAL AUDIO AND SOUND CABLES

Belden No. 8734* (Fig. M)—Tinned copper, vinyl insulated, 1 white coded conductor with tinned copper braid shield, 3 conductors cabled, chrome vinyl jacket; unshielded conductors coded black, red. Conductors 22 AWG, 7 x 30 stranded. O.D., .194″ nominal. Suggested 350 V working.
100′ Spool, Net.....$9.40 **500′ Spool,** Net.....$38.10 **1000′ Spool,** Net.....$76.20

Belden No. 8763 (Fig. N)—Three 20 AWG, 7 x 28 stranded, tinned copper conductors polyethylene insulated; 2 conductors (black, red) shielded in Beldfoil ISO-Shield wrap; unshielded conductor coded clear, #20 stranded tinned copper ground drain wire, chrome vinyl jacket. O.D., .210″ nominal. Suggested 350 V working. **500′ Spool,** Net.....$42.75 **1000′ Spool,** Net.....$85.50

Belden No. 8732 (Fig. O)—Four 22 AWG, 7 x 30 stranded tinned copper conductors polyethylene insulated; tinned copper braid shield over 2 (black, clear) conductors; unshielded conductors coded black, clear; overall chrome vinyl jacket. O.D., .188″ x .296″ nominal. Suggested 350 V working.
100′ Spool, Net.....$11.70 **500′ Spool,** Net.....$48.45 **1000′ Spool,** Net.....$96.90

Belden No. 8722* (Fig. P)—Four 20 AWG, 7 x 28 stranded, tinned copper conductors vinyl insulated; Beldfoil ISO-Shield over 2 conductors (black, red); unshielded conductors coded green, white; #22 stranded tinned ground drain wire, chrome vinyl jkt. O.D., .230″ nom. Suggested 350 WV. Pairs cabled on common axis to reduce dia. **500′ Spool,** Net.....$55.45 **1000′ Spool,** Net.....$110.85

Belden No. 8724* (Fig. P)—Same as 8722, but 22 AWG, 7 x 30 stranded, 24 AWG stranded tinned copper ground drain wire, 200 working volts; polypropylene insulated, nominal O.D., .165″.
250′ Spool, Net.....$22.15 **500′ Spool,** Net.....$44.25 **1000′ Spool,** Net.....$88.50

Belden No. 9155 (Fig. P)—Same as 8724 but 20 AWG, 7 x 28 shielded, and 18 AWG, 16 x 30 unshielded, 22 AWG stranded tinned copper drain wire; rose gray vinyl jacket. O.D., 256″ nominal. Suggested 300 V working. **500′ Spool,** Net.....$57.75 **1000′ Spool,** Net.....$115.50

Belden No. 8728 (Fig. Q)—Four 22 AWG, 7 x 30 stranded, tinned copper, polypropylene insulated, cabled in pairs, each pair has Beldfoil ISO-Shield with copper drain wire and polyester film over shields, overall Beldfoil ISO-Shield, stranded tinned copper drain wire, chrome vinyl jacket. Color coded red, blk, grn, wht. Pairs cabled on common axis to reduce diameter. O.D., .198″ nom. 400 WV, suggested. **500′ Spool,** Net.....$67.95 **1000′ Spool,** Net.....$135.90

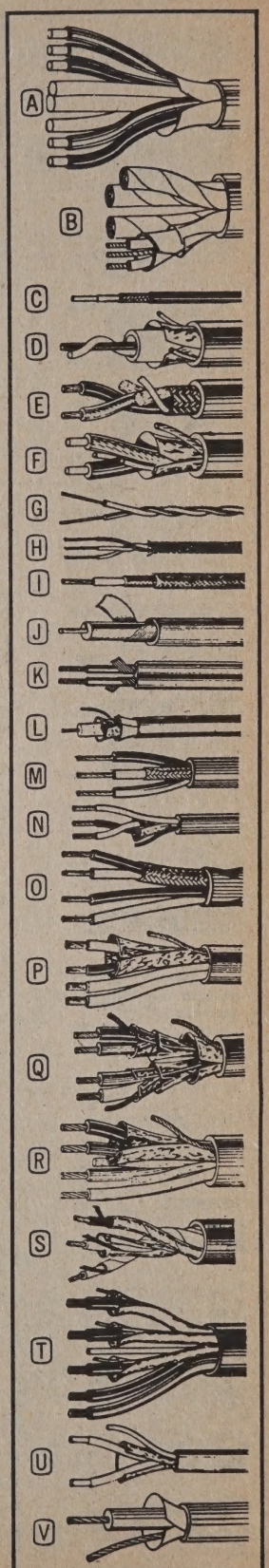
Belden No. 8730 (Fig. R)—Four 22 AWG, 7 x 30 stranded, tinned copper, polypropylene insulated; Beldfoil ISO-Shield over one pair (red, blk) with stranded tinned copper drain wire; unshielded coded green, white; chrome vinyl jacket. Pairs cabled on separate axis for reduced magnetic coupling. O.D., .230″ nom. 200 WV suggested. **500′ Spool,** Net.....$52.80 **1000′ Spool,** Net.....$105.60

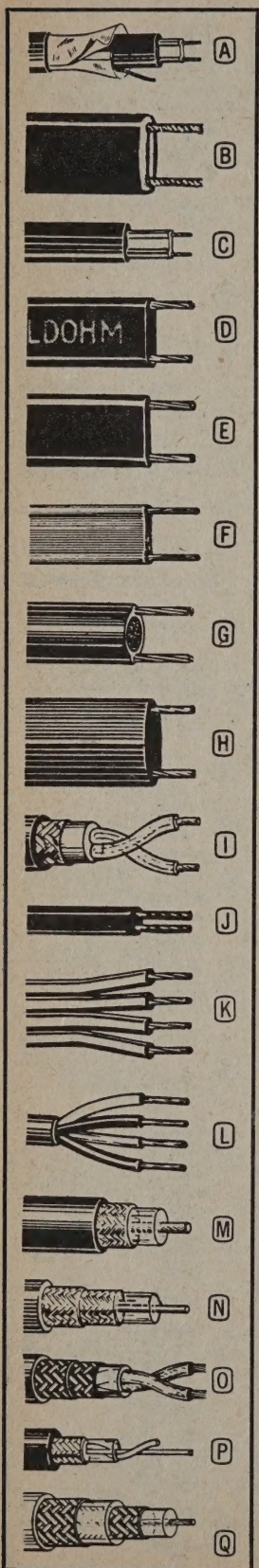
Belden No. 8733 (Fig. S)—Three 22 AWG, 7 x 30 stranded, tinned copper conductors, polyethylene insulated, each has separate Beldfoil ISO-Shield; ground wire for each conductor is tinned cadmium bronze ribbon under Beldfoil ISO-Shield; conductors cabled and color coded, black, red and clear. Overall chrome vinyl jacket. Nominal .205″ O.D. Suggested 350 volts working.
100′ Spool, Net.....$11.05 **500′ Spool,** Net.....$43.95

Belden No. 8788 (Fig. T)—Same as 8733 but vinyl insul., color coded blk, red, grn, plus 2 cond. unshielded, cabled around vinyl filler (yel., blue). Nom. O.D., .236″. **500′ Spool,** Net.....$73.00

Belden No. 8640* (Fig. U)—Two 28 AWG solid copper, Geosol™ insulated, conductors cabled in pairs, Beldfoil ISO-Shield each pair, 30 AWG solid tinned Copperweld® drain wire, white vinyl jacket. Color coded blk, red. Nom. O.D., .090″; cap. between cond. 55 pF/ft.
250′ Spool, Net.....$10.75 **500′ Spool,** Net.....$21.40

®TM: Beldfoil of Belden; Copperweld of Copperweld Steel Corp *Passes the FR-1 vertical flame test.





TRANSMISSION LINE CABLES

300 OHM IMPEDANCE TWIN LEAD WIRE

No. 9090 Metro: Two 26 AWG 7 x 34 stranded Copperweld® conductors, orange polyethylene insulation and web between conductors, cellular polyethylene oval insulation, Beldfoil® ISO-Shield™, stranded tinned drain wire, brown or tan vinyl jacket. **No. 9085 Maxi:** Two 22 AWG 7 x 30 stranded Copperweld parallel conductors, cellular brown polyethylene oval jacket. **No. 8290 Permohm®:** 100% sweep tested. Two 22 AWG 7 x 30 stranded Copperweld conductors, orange polyethylene insulation and web between conductors, cellular polyethylene oval insulation, Beldfoil ISO-Shield, stranded tinned drain wire, brown polyethylene jacket. **No. 8285 Permohm:** Two 22 AWG 7 x 30 stranded Copperweld parallel conductors, orange polyethylene insulation and web between conductors, cellular brown polyethylene oval jacket. **No. 8230 Weldohm®:** Two 20 AWG 7 x 28 stranded bare Copperweld parallel conductors, brown polyethylene insulated. **No. 8225:** Two 20 AWG 7 x 28 stranded bare copper parallel conductors, brown polyethylene insulated. **No. 8226:** Same as 8225 except for indoor use only; specify ivory or clear. **No. 8275 Celluline®:** Two 20 AWG 7 x 28 stranded bare Copperweld parallel conductors, brown polyethylene jacket with inert gas filled unicellular polyethylene core. **No. 8235:** Rated 1 kW for amateur transmitting and receiving. Two 18 AWG 7 x 26 stranded bare copper parallel conductors, brown polyethylene insulated.

Belden No.	Fig.	Nominal O.D. Inch	Nominal Atten.* dB	Net Each, Coil of 25′	50′	75′	100′	Net Each, Spool of 250′	500′	1000′
9090	A	.215 x .345	6.4	$4.68	$6.19	$ 8.00	$ 9.79	.....	$47.10	.....
9085	B	.165 x .400	2.8	2.03	2.83	3.63	4.45	.....	19.30	$38.55
8290	A	.305 x .515	3.5†	.....	8.35	11.05	14.10	$33.00	66.00	.....
8285	C	.255 x .468	2.8	.....	4.19	5.55	7.05	16.90	31.45	62.85
8230	D	.072 x .400	2.2	1.35	1.94	2.60	3.23	5.85	15.00	28.20
8225	E	.058 x .400	2.2	1.23	1.85	2.39	2.96	5.37	13.80	25.95
8226	F	.058 x .400	2.2	1.23	1.85	2.39	2.96	.....	.....	.....
8275	G	.300 x .400	2.1	.....	3.87	5.30	6.65	11.55	30.45	60.90
8235	H	.185 x .520	2.2▲	.....	.....	.....	8.80	.....	39.25	.....

*Attenuation per 100′ at 300 MHz. †At 213 MHz. ▲At 400 MHz.

SHIELDED 100-OHM IMPEDANCE LINE (FIG. I)

Belden No. 8227•—One tinned, one bare 20 AWG, 7 x 28 stranded copper conductors, polyethylene insulated, cabled, in polyethylene jacket, tinned copper braid shield with overall black vinyl jacket. O.D., .325″ nom. Cap., 15.5 pF/ft. nom. Attenuation 4.1 dB at 100 MHz, 10.2 dB at 400 MHz.
500′ Spool, Net.....**$98.80**

72 OHM IMPEDANCE CABLES (FIG. J)

Belden No. 8222—Two 20 AWG 7 x 28 stranded bare copper parallel conductors, brown polyethylene insulated. O.D., .075″ x .128″. Cap., 20.3 pF/ft. nom. Attenuation 7.7 dB at 100 MHz, 15.9 dB at 400 MHz. **100′ Spool,** Net.....**$3.53** **500′ Spool,** Net.....**$14.80**
Belden No. 8210—Rated 1 kW (RF). Two 13 AWG 7 x 21 stranded bare copper parallel conductors, brown polyethylene insulated. O.D., .166″ x .278″. Cap., 21 pF/ft. nom. Attenuation, 3.8 dB at 100 MHz, 16.0 dB at 900 MHz. **100′ Spool,** Net.....**$18.00** **250′ Spool,** Net.....**$35.80**

ANTENNA ROTATOR CABLE

Fig. K Types: Bare copper, parallel. 8464 chrome vinyl insulated, 1 cond. tinned and insulation ribbed. 8463 brown polyethylene insulated, 9403 black polyethylene insulated, 1 cond. tinned. Suggested working, 200 V. **Fig. L Type::** Bare copper cond. vinyl insulated, cabled, chrome vinyl jacket. Color Coded: 1—Black, 2—Green, 3—Red, 4—White, 5—Yellow. Suggested working, 200 V; 8489, 400 V.

Belden No.	Fig.	No. Cond.	AWG and (Stranding)	Nom. O.D., Inch	Net Each, Spool of 50′	75′	100′	500′	1000′
8463	K	5	20 (7 x 28)	.070 x .375	$4.34	$6.30	$8.25	$37.15	.....
8464•	K	4	20 (7 x 28)	.070 x .390	3.89	5.25	6.75	28.35	$56.70
9403	K	3	20 (7 x 28½)	.075 x .360	2.49	3.39	4.20	19.65	.....
8484•	L	4	20 (7 x 28)	.180	.....	.....	7.15	30.55	61.05
8489‡•	L	4	18 (16 x 30)§	.250	.....	.....	29.40#	58.75	117.45
8485•	L	5	20 (7 x 28)	.190	.....	.....	8.80	38.05	76.05
8488†•	L	8	22 (7 x 30)	.205	.....	.....	10.20	45.10	90.15

†Color coded blk, blue, brn, grn, orange, red, wht, yel. ‡Color coded blk, wht, red, grn. §Tinned copper. #250′, $26.45. •Passes the FR-1 vertical flame test.

RG/U TRANSMISSION LINE CABLES

Meet JAN-C-17A specs and polyethylene insulation over conductors except as otherwise indicated.

Belden No.	Fig.	No. RG-	AWG and (Stranding)	Shields No.	Shields Type	Jacket	Nom. O.D.	Net Each, Spool of 25′	50′	100′	500′	1000′
8237•*	M	8/U	13 (7 x 21) **b**	1	b	BV	.405″	.....	$12.85	$24.00	$ 95.70	$191.40
9251•*	M	8A/U	13 (7 x 21) **b**	1	b	BN	.405″	.....	.....	28.20	109.90	219.75
8242•*	N	9/U	13 (7 x 21) **a**	2	a, b	GN	.420″	.....	.....	68.25	.....	620.55
8238•*	M	11/U	18 (7 x 26) **c**	1	b	BV	.405″	.....	.....	21.45	84.85	169.65
8261•*	M	11A/U	18 (7 x 26) **c**	1	b	BN	.405″	.....	.....	.....	97.75	195.45
9250•*	O	22B/U	18 (7 x .0152) **d**	2	c	BN	.420″	.....	.....	47.40	197.35	394.65
8259	M	58A/U	20 (19 x .0071) **c**	1	c	BV	.195″	$3.48	5.35	10.05	35.55	71.10
8240	M	58/U	20 (Solid) **b**	1	c	BV	.195″	3.29	5.05	8.80	31.95	63.90
8262*	M	58C/U	20 (19 x .0071) **c**	1	c	BN	.195″	.....	.....	.....	42.10	84.15
8241	M	59/U	22 (Solid)‡	1	b	BV	.242″	3.80	6.05	10.65	35.60	71.25
8263*	M	59B/U	.023 (Solid)‡	1	b	BN	.242″	.....	.....	.....	44.55	89.10
8254	P	62/U	22 (Solid)†‡	1	b	BV	.242″	.....	.....	11.20	42.45	84.90
8255*	P	62B/U	24 (7 x 32)†‡	1	b	BN	.242″	.....	.....	.....	53.55	107.10
9252*	M	122/U	22 (27 x 36) **c**	1	c	BN	.160″	.....	.....	10.30	39.55	79.05
8216*	M	174/U	26 (7 x 34)‡	1	c	BN	.100″	.....	.....	6.75	24.75	49.50
8218	M	.....	27 (7 x 35)‡	1	c	BV	.150″	.....	.....	9.10	33.70	67.35
8267•*	M	213/U	13 (7 x 21) **b**	1	b	BN	.405″	.....	.....	.....	109.90	219.75
8268•*	N	214/U	13 (7 x .0296) **a**	2	a	BN	.425″	.....	.....	.....	371.05	742.05
9273*	N	223/U	19 (Solid) **a**	2	a	BN	.206″	.....	.....	31.75	137.80	275.55
9222	Q	.....	20 (7 x 28) **c**	2	c	YV	.242″	.....	.....	16.80	72.00	.....
9267	Q	59/U	20 (Solid) **b**	2	b	B	.360″	.....	.....	33.15	154.15	308.25

*MIL-C-17D spec. †Semi-solid polyethylene insulation. ‡Bare Copperweld. **a**—Silver-coated copper. **b**—Bare copper. **c**—Tinned copper. **d**—Bare copper, one cond. has tinned center strand. BN—Black non-contaminating vinyl. BV—Black vinyl. GN—Gray non-contam. vinyl. YV—Yellow vinyl. B—Black neoprene. •Passes the FR-1 vertical flame test.

FOAM CORE TRANSMISSION LINE (FIG. M)

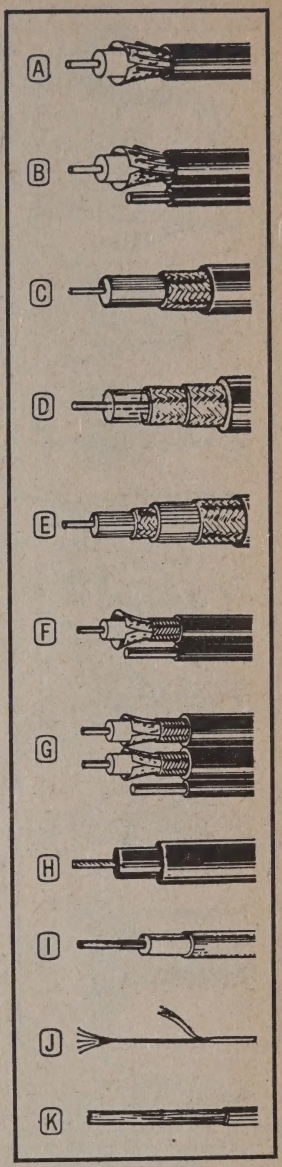
Belden No. 9221—Tinned copper 30 AWG, 7 x 38 stranded conductor, cellular polypropylene insulation, tinned copper shield, black vinyl jacket. Nom. cap., 17.4 pF/ft. O.D., .097″ nom.
25′ Spool, Net.....**$2.72** **100′ Spool,** Net.....**$7.40** **500′ Spool,** Net.....**$28.15**
Belden No. 8214•—RG-8/U for citizens' band and amateur radio as 50-ohm antenna cable. Copper 11 AWG, 7 x 19 stranded conductor, cellular polyethylene foam insulation, bare copper braid shield with black vinyl jacket overall. Nom. cap., 26 pF/ft. Vel. of propag. 78%, nom. Nom. O.D., .405″.
50′ Spool, Net.....**$ 14.20** **100′ Spool,** Net.....**$ 24.60**
500′ Spool, Net.....**115.45** **1000′ Spool,** Net.....**230.85**
Belden No. 8219—Same, but RG-58/AU with tinned copper 20 AWG, 19 x 32 stranded conductor, tinned copper braid shield; nom. O.D., .195″. **100′ Spool,** Net.....**$10.65**
500′ Spool, Net.....**$40.75** **1000′ Spool,** Net.....**81.45**
®TM: Permohm, Weldohm, Beldfoil and Celluline of Belden; Copperweld of Copperweld Steel Corp. •Passes the FR-1 vertical flame test.

CATV-MATV COAXIAL CABLES

All 100% sweep tested. Solid bare Copperweld® conductors are cellular polyethylene insulated. **Nos. 9233, 9234:** Duofoil® shield, black or white vinyl jacket; four spirally applied tinned Copperweld drain wires. **No. 9230:** Duofoil® shield, black vinyl jacket; four spirally applied tinned Copperweld drain wires. **No. 9235:** Same, except has .051″ galvanized steel messenger. **No. 8221:** Bare copper braid shield, gray, white or black vinyl jacket. **Nos. 8212 and 8213:** Bare copper braid shield, black polyethylene jacket. **No. 8228:** Duofoil shield, white, black, rose or gray vinyl jacket; four spirally applied tinned Copperweld drain wires. **No. 9229:** Duofoil shield, black vinyl jacket. Has .051″ galvanized steel messenger. **No. 8215:** Two bare copper braid shields, black polyethylene jacket. **Nos. 8232 and 8233:** Two bare copper braid shields, black polyethylene jacket. **No. 9244:** Bare copper braid shield with black vinyl jacket. **No. 9245:** Two Duofoil and one tinned copper braid. Has .051″ galvanized steel messenger and black vinyl jacket. **Nos. 9246 and 9247:** Two Duofoil and one tinned copper braid, black vinyl jacket. 9246 without steel messenger. **No. 9248:** Same construction as 9245 but without steel messenger. **Nos. 9242 and 9243:** Duofoil plus aluminum braid shielding; black vinyl jacket; RG-59U type. **No. 9266:** Two Duofoil and one tinned copper braid shield, black vinyl jacket. **No. 8241:** Bare copper braid shield, black vinyl jacket.

Belden No.	Fig.	AWG	O.D.	Nominal pF/ft.	Nominal Attenuation* dB	Nominal Attenuation* MHz	Net Each, Spool of 100′	500′	1000′	2000′
9233	A	22	.216″	16.3	6.5	500	.....	$ 25.90	$ 51.75	.....
9234	A	20	.225″	17.3	6.2	500	.....	26.80	53.55	.....
9235	B	20	†	17.3	6.2	500	.....	27.15	65.85	.....
8221	C	20	.242″	16.3	5.8	400	$11.20	37.45	74.85	.....
8212	C	20	.242″	17.3	5.6	400	.....	39.10	78.15	$156.30
8228	A	18‡	.242″	17.3	5.0	500	8.80	28.50	57.00	.....
9229	B	18‡	§	17.3	5.0	500	.....	36.40	72.75	.....
8215	D	21	.332″	20.5	6.5	400	.....	91.75	183.45	.....
9230	A	14‡	.380″	17.3	3.7	500	.....	67.80	135.60	.....
8213	C	14‡	.405″	17.3	3.3	400	.....	101.25	202.50	405.00
8232	E	20‡	.315″	17.3	5.6	400	.....	84.10	168.15	336.30
8233	E	14	.475″	17.3	3.3	400	.....	147.60	295.20	590.40
9244	C	22	.240″	21.0	7.1	400	.....	31.45	62.85	.....
9245	F	20	▲	17.3	6.2	500	.....	38.75	77.50	.....
9246	F	20	■	17.3	6.2	500	.....	64.35	128.70	.....
9247	G	20	♦	17.3	6.2	500	.....	71.40	142.80	.....
9248	I	18	.270″	17.3	5.0	500	.....	38.55	77.10	.....
9242	I	22	.242″	16.3	9.0	900	.....	26.40	52.80	105.60
9243	I	20	.242″	17.3	8.6	900	.....	27.30	54.60	109.20
9266	I	20	.242″	17.3	5.6	400	.....	31.70	63.40	.....
8241	I	22	.242″	21.0	7.1	400	10.65**	35.60	71.25	.....

*Attenuation per 100′. †.225″ x .375″. ‡Bare copper. §.242″ x .380″. #Black only. •Available in self-dispensing Convert-a-Pak™; same price. ▲.242″ x .375″. ■.242″ x .515″. ♦.242″ x .660″. IFig. F less steel messenger. ‖Fig. G less messenger. **25′ Spool, Net..... $3.80; 50′ Spool, Net..... $6.05



COAXIAL TV CABLE

All 100% shielded, low loss foam 59/U type, 75-ohm cables for color or black and white TV installations as well as FM stereo systems. Fitted with F connectors at each end. Nos. 9357–9359, specify white or beige, indoor use; 9360–9362, black, with weatherproof boot for outdoor use.

Belden No.	Length	Net Ea., Lots of 5	Belden No.	Length	Net Ea., Lots of 5	Belden No.	Length	Net Ea., Lots of 5
9357	3′	$2.34	9359	12′	$3.23	9361	75′	$7.50
9358	6′	2.69	9360	50′	5.30	9362	100′	8.40

MISCELLANEOUS SPECIAL DUTY WIRES

Belden No. 8689• 7 mm Ignition Wire (Fig. H)—Tinned copper clad steel wire, 20 AWG, 7 x 28 stranded cond.; .120″ thk., blk. rubber insulation. Nom. O.D., .278″. Hypalon® jacket.
100′ Spool, Net..... $12.40

Belden No. 8868 High Voltage CRT Lead (Fig. I)—Tinned copper 22 AWG, 7 x 30 stranded, conductive polyethylene, polyethylene insulated, red vinyl jacket; extra flexible and small. Rated 50,000 V breakdown; 25,000 V working. O.D., .150″ nominal. **25′ Spool,** Net..... $ 2.25
100′ Spool, Net..... $5.70 **500′ Spool,** Net..... 21.60

Belden No. 8866 High Voltage CRT Lead (Fig. I)—Tinned copper 18 AWG, 16 x 30 stranded, conductive polyethylene, polyethylene insulated, red vinyl jacket. Rated 110 kV breakdown; 40,000 V working. O.D., .208″ nom. **25′ Spool,** Net. $3.41 **100′ Spool,** Net. $9.75 **500′ Spool,** Net. $41.25

Belden No. 8869 High Voltage CRT Lead (Fig. I)—Tinned copper 22 AWG, 7 x 30 stranded, conductive polyethylene, polyethylene insulated, black vinyl jacket. Rated 35,000 V breakdown, 17,000 V working. Nom. O.D., .120″. **25′ Spool,** Net. $1.80 **100′ Spool,** Net. $4.58 **500′ Spool,** Net. $16.75

Belden No. 8817 Litz Wire (Fig. J)—Copper 5 x 44 stranded conductor, Celenamel® insulated, nylon wrap. O.D., .008″ nominal. **100′ Spool,** Net..... $1.22

Belden No. 8014• Indoor Aerial Wire (Fig. K)—Tinned copper 25 AWG, 13 x 36 stranded, chrome vinyl insulation. O.D., .044″ nom. **25′ Spool,** Net..... $1.29 **500′ Spool,** Net..... $7.15

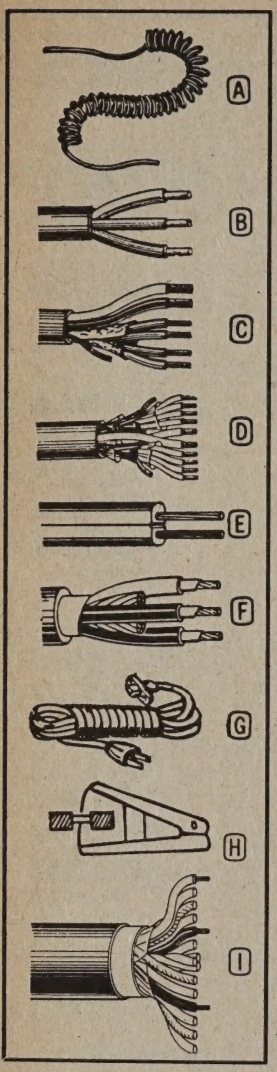
®TM: Celenamel, Duofoil of Belden; Copperweld of Copperweld Steel Co.; Hypalon of DuPont. •Passes the FR-1 vertical flame test.

MAGNET WIRE

Single Beldsol®: Dual film insulated magnet wire combines the excellent dielectric characteristics of polyurethane and toughness and solvent resistance offered by an overcoat of nylon. Rated by IEEE tests for 130° C usage and will solder without insulation removal at 750° F. Complies with MIL-W-583 specs. 40 AWG is Beldure® 105° C polyurethane film. **Heavy Armored Poly-Thermaleze:** Dual coated magnet wire. Base coat cross-linked, modified polyester; top coat amide-imide polymer; rated for 180° C usage. Exceptional ability to resist solvents and abuse in difficult windings. Complies with MIL-W-583 specs. 36, 38 and 40 AWG 180° C single polyester-imide, blue color.

Size	Single Beldsol® ¼ lb. Spool Belden No.	Lgth., Ft.	Net Each	½ lb. Spool Belden No.	Lgth., Ft.	Net Each	Heavy Poly-Thermaleze ½ lb. Spool Belden No.	Lgth., Ft.	Net Each	1 lb. Spool Belden No.	Lgth., Ft.	Net Each	3 and 5 lb. Spools Belden No.	Spool Lbs.	Lgth. Ft.	Net Each
14	.....	.....	.....	8047	40	$2.66	8059	40	$2.63	8073	80	$ 4.38	9040	5	410	$21.55
16	.....	.....	.....	8048	63	2.66	8060	63	2.69	8074	126	4.56	9041	5	630	22.20
18	.....	.....	.....	8049	100	2.79	8061	100	2.73	8075	199	4.73	9042	5	995	23.10
20	.....	.....	.....	8050	160	2.79	8062	157	2.88	8076	315	4.77	9043	5	1570	23.10
22	.....	.....	.....	8051	254	2.79	8063	250	2.93	8077	501	4.80	9044	5	2500	23.10
24	.....	.....	.....	8052	404	2.85	8064	396	3.05	8078	793	4.94	9045	3	2380	14.40
26	.....	.....	.....	8053	645	2.99	8065	630	3.15	8079	1260	5.20	9046	3	3770	15.25
28	8040	510	$1.91	8054	1020	3.05	8066	995	3.29	8080	1990	5.65	9047	3	5970	16.45
30	8041	807	2.03	8055	1615	3.35	8067	1570	3.59	8081	3140	6.40	9048	3	9430	18.60
32	8042	1257	2.22	8056	2515	3.62	8068	2440	3.92	8082	4880	7.30	.....	.....	.....	.....
34	8043	2030	2.33	8057	4060	3.86	8069	3930	4.28	8083	7860	8.25	.....	.....	.....	.....
36	8044	3200	2.57	8058	6400	4.40	8070	6200	4.80	8084	12400	9.85	.....	.....	.....	.....
38	8045	5070	3.15	.....	.....	.....	8071	9700	5.75	8085	19400	11.50	.....	.....	.....	.....
40	8046	8050	4.31	.....	.....	.....	8072	16050	7.00	8086	32100	14.95	.....	.....	.....	.....

®TM: Beldsol and Beldure of Belden.



RETRACTILE CABLES AND CORDS (FIG. A)

MICROPHONE CABLES

No. 8409: Tinned copper, nylon insulated, neoprene jacket. **Nos. 8415, 8490, 9415:** Five strands TCW, 16 strands TC, rubber insulated, paper tape, neoprene jacket. **No. 8499:** Tinned cadmium bronze, rubber insulated, spiraled TC shield, cotton wrap, neoprene jacket. **No. 8605:** Tinned copper, polypropylene insulated, spiraled TC shield, gray PVC jacket. **All Others:** Five strands TCW, 16 strands TC, rubber insulated, double Beldfoil® Iso-Shield™ with drain wire same as conductors, paper tape, neoprene jacket. **Conductor Color Coding: 1,** white; **2,** black; **3,** red; **4,** green; **5,** blue. Capacitance given is of shielded conductor.

Belden No.	Conductors	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Nominal Cap. pF/Cord	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
8409	4 unshielded	28 (7 x 36)	.165″	3/16″	.....	12″	6′	$2.10	.....
8415	4 unshielded	23 (21 x 36)	.250″	7/8″	.....	11½″	6′	2.45	$110.00*
9415	4 unshielded	23 (21 x 36)	.250″	7/8″	.....	30″	15′	5.30	68.70
8499	1 shielded	24 (45 x 40)	.170″	11/16″	285	7½″	4′	1.77	.....
8605	1 shielded	24 (19 x 36)	.160″	11/16″	680	21½″	12′	2.69	.....
8497	1 shielded,	23 (21 x 36)	.250″	7/8″	510	11½″	6′	2.69	112.50*
9417	2 unshielded	23 (21 x 36)	.250″	7/8″	1200	30″	15′	5.60	69.60
8491	2 ind. shielded,	23 (21 x 36)	.275″	1 1/16″	510	12″	6′	3.12	.....
9416	2 unshielded	23 (21 x 36)	.275″	15/16″	1200	30″	15′	7.30	96.75
8490	5 unshielded	23 (21 x 36)	.265″	7/8″	.....	11½″	6′	2.69	.....

*Standard Put-Up of 50.

NEOPRENE POWER CONTROL CABLES

Bare copper, paper wrap, rubber insulation, cabled with fillers, paper tape wrap, black neoprene jacket. Straight portion 12″ each end (except 6″ on 8601, 8602, 8603). **Jacket:** .045″ thick; removed 1½″ each end. **Color Coding: 1,** white; **2,** black; **3,** green; **4,** red.

Belden No.	No. of Cond.	Type	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
8601	2	SVO	18 (41 x 34)	.270″	15/16″	12″	6′	$ 2.06	.....
9476	2	SVO	18 (41 x 34)	.270″	15/16″	24″	12′	3.75	$ 45.90
9477	2	SVO	18 (41 x 34)	.270″	15/16″	48″	25′	6.00	74.40
9478	3	SVO	18 (41 x 34)	.275″	15/16″	24″	12′	4.71	59.40
9479	3	SVO	18 (41 x 34)	.275″	15/16″	48″	25′	8.10	109.50
8602	3	SJO	18 (41 x 34)	.360″	1 3/8″	12″	6′	3.12	.....
9480	3	SJO	18 (41 x 34)	.360″	1 3/8″	24″	12′	5.50	.....
9481	3	SJO	18 (41 x 34)	.360″	1 3/8″	48″	25′	8.97	.....
8603	3	SJO	16 (65 x 34)	.370″	1 7/16″	12″	6′	3.17	.....
9484	3	SJO	16 (65 x 34)	.370″	1 7/16″	24″	12′	6.15	.....
9485	3	SJO	16 (65 x 34)	.370″	1 7/16″	48″	25′	10.47	.....
9482	4	SJO	18 (41 x 34)	.385″	1 7/16″	24″	12′	6.27	.....
9483	4	SJO	18 (41 x 34)	.385″	1 7/16″	48″	25′	10.47	.....

VINYL TELEPHONE CORDS

8495: Bare cadmium bronze, vinyl insulated, conductors cabled, paper wrapped, black vinyl jacket. One end stripped 2¾″, spade terminals attached and hook strain relief clamped over jacket. Other end stripped 3 7/16″ and spade terminals attached. **Color Coding: 1,** white; **2,** black; **3,** red. **All Others:** Tinsel conductors, vinyl insulated, vinyl jacket. One end stripped 7″, spade terminals attached and hook strain relief clamped over jacket. Other end has red and black conductors pulled out of jacket and cut to 3″ length, spade terminals attached, molded plastic strain relief, 6¾″ jacket remains on two white conductors, spade terminals attached. Jacket available in black, light beige or white; 8495 black only.

8495	3	.....	23 (21 x 36)	.220″	7/8″	10″	4½′	$2.48	.....
9443	4	.....	31 (Tinsel)	.195″	3/4″	10½″	5′	3.75	$48.90
9440	4	.....	31 (Tinsel)	.195″	3/4″	22″	10′	4.71	60.45
9441	4	.....	31 (Tinsel)	.195″	3/4″	33″	15′	6.10	79.50
9442	4	.....	31 (Tinsel)	.195″	3/4″	48″	25′	7.30	97.50

JUKE BOX CABLES

No. 8783: Tinned copper, vinyl insul., cabled, chrome vinyl jacket. **No. 8786:** Tinned copper, vinyl insulated, 4 conductors, cabled under Beldfoil ISO-Shield; 2 unshld. cond., 22 AWG drain wire; chrome vinyl jacket. **No. 8787:** Tinned copper; 8 polyethylene insulated cond., cabled in 2 quads each has transparent polyester tape wrap and tinned copper wire, with Beldfoil ISO-Shield color coded red, green; 2 vinyl insulated conductors; chrome vinyl jacket. **No. 8784:** 10 unshielded, tinned copper conductors, color coded vinyl insulation, cabled, chrome vinyl jacket. Pass FR-1 flame test.

Belden No.	Fig.	No. Cond.	AWG and (Stranding)	Nom. O.D.	WV	Net Each, Spool of 100′	Net Each, Spool of 500′
8783	B	3	1-20 (10x30), 2-16 (26x30)	.250″	450	$11.95	$ 52.35
8786	C	6	2-22 (7x30), 4-24 (7x32)	.256″	350	13.15	59.05
8787	D	10	8-24 (7x32), 2-22 (7x30)	.290″	350	.....	109.20
8784	....	10	2-16 (26x30), 1-20 (10x30), 7-22 (7x30)	.295″	300	.....	103.15

MULTI-CONDUCTOR PORTABLE CORDAGE

No. 8480 (Fig. I)—SJT type low leakage power cord. Bare stranded copper polyethylene insulated, cabled with low dielectric fillers, low dielectric inner jacket, vinyl outer jacket. UL Listed.
Nos. 8462 and 8888 (Fig. E): Two conductors, stranded copper, parallel, insulated with one conductor polarity ribbed. **All Others: (Fig. F):** Stranded copper, rubber insulated, cabled with fillers, black rubber jacket. **Color-coded:** Black and white except as noted.

Belden No.	UL Type	No. Cond.	AWG and (Stranding)	Nominal O.D.	Net Each, Spool of 25′	50′	100′	250′	500′	1000′
8480	SJT	3‡	16 (65 x 34)	.580	.....	.....	$69.85	$145.20	$290.40	$580.80
8462*	SP-1	2	18 (41 x 34)•	.123″ x .223″	$2.37	.....	7.25	17.05	.....	.....
8888†	SPT-1	2	18 (41 x 34)	.110″ x .207″	2.33	.....	6.50	13.90	.....	.....
8452	SV	2	18 (41 x 34)	.245″	2.46	$6.20	11.50	24.70	49.35	98.70
8478	SJ	2	18 (41 x 34)	.298″	.....	.....	12.15	28.90	.....	115.50
8472	SJ	2	16 (65 x 34)	.325″	3.18	.....	16.80	39.30	.....	.....
8474	.....	2	14 (41 x 30)	.360″	.....	.....	21.25	51.10	.....	.....
8453	SV	3‡	18 (41 x 34)•	.265″	.....	7.80	15.10	.....	71.40	.....
8479	.....	3‡	14 (41 x 30)	.380″	.....	.....	24.75	60.55	.....	.....
8454	.....	4§	18 (41 x 34)•	.265″	.....	8.95	17.05	.....	78.25	156.45
8455	.....	5#	3-20 (26 x 34)•	.280″	.....	.....	16.80	42.45	.....	.....
			2-18 (41 x 34)•							

Specify: *Brown or ivory rubber; †Brown, ivory or gray vinyl. ‡Black, white, green. §Black, white, brown, red. #Brown, green, white, black, red. •Tinned.

TELEVISION AND SERVICEMAN CORDS (FIG. G)

No.	Description	Each	No.	Description	Each
8874	6′ SP-1 brown rubber, male TV plug	$1.20	8889	9′ SPT-1 brn. plastic, male TV plug	$0.93‡
8895	6′ SPT-1 brn. plastic, male TV plug	.78*	8875	6′ SPT-1 red plastic extension	.86
8873	Same as 8895 but polarized	.89†			

Available in bulk, 100-pack: *$44.00; †$50.00; ‡$53.00.

ALUMINUM GROUND WIRE

Belden No. 8018 (Not Illus.)—Solid 8 AWG soft annealed aluminum wire packaged in counter dispensers of ten 50 ft. connected coils, or spools of 500 ft. lengths. Spooled wire marked every 100 ft.
50′ Coil, Net.....$1.97 **500′ Spool,** Net.....$15.90

STRIP-IT TOOL (FIG. H)

Belden No. 8196—A precision tool, simple in design and foolproof in operation. Indispensable for electronic technicians, assemblers and electricians. Adjustment bar set with a touch of the finger. Engineered for thousands of operations with one set of blades. Can also be used to cut small size wires.
Net Each.....$2.94

CB-AMATEUR RADIO COAXIAL CABLE

Individually packaged and fitted with PL-259 connectors on both ends, RG 58A/U (Models 9350 thru 9352), or 8/U (all others) cables for use with two way systems. Low loss foam; 50 ohms impedance. Outer diameter, .195″ for RG 58A/U, and .405″ for 8/U. All in black color.

Belden No.	Length	Net Each
9350	15′	$ 4.97
9351	25′	5.70
9352	50′	7.40
9353	25′	10.20
9354	50′	14.40
9355	75′	19.95
9356	100′	24.75

®TM: Beldfoil of Belden.

9 NEW CLOSED CIRCUIT TELEVISION CABLES THAT ANSWER MOST CCTV AND VTR CABLE APPLICATION NEEDS

Belden No. 9254* (Fig. A)—13-conductor camera extension cable. Recommended for remote control, closed circuit and cue line applications. Has two 20 AWG (10 x 30) tinned copper, vinyl insulated, color coded conductors. Nine 22 AWG (7 x 30) tinned copper, vinyl insulated, 2 conductors cabled, Beldfoil® shield, 2 conductors cabled unshielded, 5 conductors unshielded. Two foam polypropylene insulated coaxial cables. Nominal impedance, 75 ohms, color coded. Tinned copper braid shield. Chrome vinyl jacket, .550″ nominal O.D. UL Listed, Style 2497.
100 ft., Net..... **$77.40** **250,500, 1000 or 1500 ft.,** Net per 1000 ft.*..... **$758.70**

Belden No. 9255 (Fig. B)—4-conductor video monitor and extension cable, an excellent replacement for Sony, Panasonic, Concord, Dage and other original equipment cables. Has one 20 AWG (16 x 32) tinned copper, polyethylene insulated conductor; one 28 AWG (7 x 36) tinned copper, vinyl insulated, tinned copper spiral wrapped shield, vinyl jacket conductor. One 50-ohm coax, 27 AWG (7 x 35) tinned copper conductor, foam polyethylene insulation, tinned copper braid shield. One 50-ohm coax, 27 AWG (7 x 35) tinned copper conductor, polyethylene insulation, tinned copper braid shield. Overall black vinyl jacket, .225″ nominal O.D.
50 ft., Net.. **$17.10** **100 ft.,** Net.. **$28.35** **500 ft.,** Net.. **$118.45** **1000 ft.,** Net.. **$236.85**

Belden No. 9256 (Fig. C)—4-conductor video monitor and extension cable is an excellent replacement for original equipment cables. Has two 24 AWG (7 x 32) tinned copper, vinyl insulated, tinned copper spiral wrapped shield, vinyl jacket conductors. Two 50-ohm coax, 25 AWG (7 x 33) bare copper conductor, polyethylene insulation, bare copper braid shield, vinyl jacket, one black, one white. Overall black vinyl jacket, .310″ nominal O.D.
50 ft., Net.. **$21.10** **100 ft.,** Net.. **$35.10** **500 ft.,** Net.. **$145.65** **1000 ft.,** Net.. **$291.30**

Belden No. 9257 (Fig. D)—7-conductor camera extension cable for replacement of original equipment cables. Has one 50-ohm coax, 27 AWG (7 x 35) tinned copper conductor, polyethylene insulation, tinned copper braid shield, polyester tape wrapped. One 28 AWG (7 x 36) tinned copper, vinyl insulation, bare copper spiral wrapped shield, black vinyl jacket conductor. Four 27 AWG (7 x 35) tinned copper conductors, vinyl insulated. One 24 AWG (7 x 32) tinned copper conductor, vinyl insulated. Overall gray vinyl jacket, .245″ nominal O.D.
50 ft., Net.. **$18.40** **100 ft.,** Net.. **$30.40** **500 ft.,** Net.. **$126.75** **1000 ft.,** Net.. **$253.50**

Belden No. 9258 (Fig. E)—8-conductor video, audio and power extension cable. Excellent replacement for original equipment cables. Has six 22 AWG (16 x 34) tinned copper conductors, vinyl insulated. One 50-ohm coax, 30 AWG (7 x 38) tinned copper conductor, polyethylene insulated, bare copper braid shield, polyester tape wrapped. One 22 AWG (16 x 34) tinned copper conductor, vinyl insulated, tinned copper braid shield, polyester tape wrapped. Overall black vinyl jacket, .225″ nominal O.D.
50 ft., Net.. **$19.05** **100 ft.,** Net.. **$31.65** **500 ft.,** Net.. **$131.95** **1000 ft.,** Net.. **$263.85**

Belden No. 9259 (Fig. F)—RG-59 type coax cable with stranded center conductor. Recommended for camera to recorder to monitor connections. Stranded center conductor adds the flexibility needed to resist severe twisting, bending and other stresses which occur in many CCTV applications. Has 22 AWG stranded bare copper conductor, cellular polyethylene insulation, bare copper braid shield, black vinyl jacket, 75 ohm, .242″ nominal O.D. UL Listed, Style 1354.
50 ft., Net.. **$6.90** **100 ft.,** Net.. **$11.70** **500 ft.,** Net.. **$40.90** **1000 ft.,** Net.. **$81.75**

Belden No. 9260 (Fig. G)—6-conductor shielded remote control cable. Recommended for applications where remote switching of video camera function is required. Six 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, black, white, red, green, orange, blue. Overall tinned copper braid shield. Overall gray vinyl jacket, .305″ nominal O.D. UL Listed, Style 2464.
50 ft., Net.. **$16.05** **100 ft.,** Net.. **$26.70** **500 ft.,** Net.. **$109.50** **1000 ft.,** Net **$219.00**

Belden No. 9261 (Fig. H)—12-conductor shielded remote control cable. Recommended for applications where remote switching of video camera function is required. Has twelve 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, color coded. Overall tinned copper braid shield. Overall gray vinyl jacket, .410″ nominal O.D. UL Listed, Style 2464.
50 ft., Net.. **$27.75** **100 ft.,** Net.. **$44.40** **500 ft.,** Net.. **$185.20** **1000 ft.,** Net.. **$370.35**

Belden No. 9262 (Fig. I)—13-conductor remote control and video cable. Recommended for use in installations requiring external drive signals, tallies, intercom, switching and video operations. Has twelve 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, color coded. One 75-ohm coax, 22 AWG stranded bare copper conductor, foam polyethylene insulated, bare copper braid shield, polyester tape wrapped. Overall tinned copper braid shield. Overall gray vinyl jacket, .425″ nominal O.D. UL Listed.
50 ft., Net.. **$36.55** **100 ft.,** Net.. **$61.65** **500 ft.,** Net.. **$256.90** **1000 ft.,** Net.. **$513.75**

Belden No. 9265—Siamese type cable, RG59/U type and twisted pair, RG59/U has 1 conductor 22 AWG BC coax with cellular polyethylene insulation, bare copper shield. Nom. impedance, 75 ohms. Twisted pair is 2 conductor, 22 AWG TC with vinyl insulation, Beldfoil aluminum-polyester shield, black vinyl jacket. Nom. O.D., .242″ x .445″.
500 ft., Net..... **$84.15** **1000 ft.,** Net..... **$168.30**

TV CAMERA CABLES

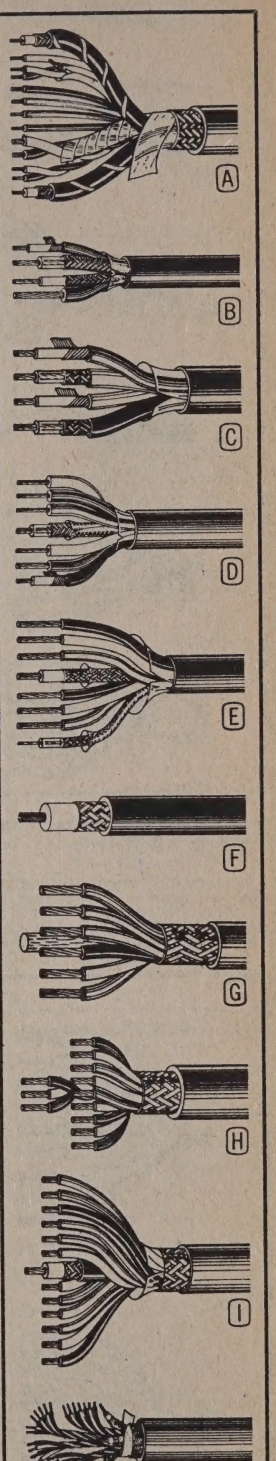
Belden No. 8280* (Fig. J)—28-conductor camera cable. Four 18 AWG (16 x 30) tinned copper, vinyl insulated, color coded; 21-22 AWG (7 x 30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded; 3 coaxial cables color coded, nominal impedance 51 ohms; tinned copper braid shield; chrome vinyl jacket .750″ nom. O.D.
100 ft., Net..... **$145.00** **250, 500 or 1000 ft.,** Net per 1000 ft.*..... **$1445.00**

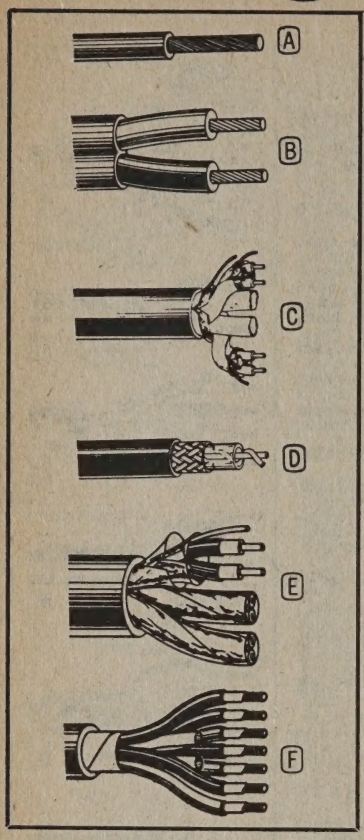
Belden No. 8286*—Similar to above, but nom. impedance 75 ohms. Additionally, the group of four 18 AWG and a group of seven 22 AWG conductors are separately wrapped with Beldfoil ISO-Shield™ with stranded drain wire and polyester tape over each group. Jacket is black Hypalon®, .730″ O.D.
100 ft., Net..... **$145.00** **250, 500 or 1000 ft.,** Net per 1000 ft.*..... **$1446.15**

Belden No. 9253*—Recommended for transistorized TV cameras. UL listed. Similar to Fig. G except with shield. 28-conductor TV camera cable has four 18 AWG (16 x 30) tinned copper, vinyl insulated, color coded conductors, Beldfoil® ISO-Shield around 4 conductors with stranded drain wire, polyester tape over this shielded group. 21-22 AWG (7 x 30) tinned copper, vinyl insulated, cabled in three groups of 7, color coded, one group of 7 has Beldfoil ISO-Shield overall with a stranded drain wire, polyester tape over this shielded group. Three coaxial cables, nom. impedance 75 ohms. RG 59/U type with foam polypropylene insulation. Tinned copper braid shield, chrome vinyl jacket .810″ nom. O.D.
100 ft., Net..... **$166.35** **250, 500 or 1000 ft.,** Net per 1000 ft.*..... **$1647.00**

Belden No. 8282* (Fig. K)—13-conductor TV eye cable. Eight 22 AWG (7 x 30) tinned copper, vinyl insulated, color coded; one 22 AWG (7 x 30) polyethylene insulated; two 18 AWG (16 x 30) tinned copper conductors, vinyl insulated, black and red; one RG-58A/U 50-ohm coax cable, one 72-ohm coax, stranded conductor, polyester tape wrapped, chrome vinyl jacket .470″ nom. O.D.
100 ft., Net..... **$64.00** **250, 500, 1000 or 1500 ft.,** Net per 1000 ft.*..... **$629.25**

®TM: Beldfoil of Belden; Hypalon of DuPont. *One piece spools; length may vary +20% −0% from length shown. •Passes FR-1 vertical flame test.





®TM: Beldfoil of Belden; Copperweld of Copperweld Steel Corp.

PRIMARY WIRE, MARINE AND AUTO

Bare copper, vinyl insulated. S.A.E. type G.P.T.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Code	Net Each, Spool of 100′	Net Each, Spool of 500′
8685	A	16 (19 x 29)	.102″	Black	$ 5.30	.....
8684	A	14 (19 x 27)	.117″	Green	7.20	.....
8683	A	12 (19 x 25)	.142″	Red	10.90	.....
8682	A	10 (19 x 23)	.175″	White	15.60	.....
8681	A	8 (19 x 21)	.219″	Chrome	24.00	.....
8680	A	6 (37 x 21)	.290″	Chrome	48.75	.....

DUPLEX PRIMARY WIRE

Tinned copper, vinyl insulated, conductors parallel, chrome vinyl jacket.

8677	B	16 (19 x 29)	.164″ x .276″	Brn, Red	$10.80	$ 46.50
8675	B	14 (19 x 27)	.189″ x .326″	Brn, Red	14.05	64.90
8673	B	12 (19 x 25)	.213″ x .384″	Brn, Red	20.50	96.60
8678	B	10 (19 x 23)	.243″ x .436″	Brn, Red	29.10	144.45

DATA, INSTRUMENTATION AND COMPUTER CABLES

Belden No. 9851 (Fig. C)—200 ohm video twinax. Two conductor, 29 AWG solid silver coated Copperweld®. Cellular flame retardant polyethylene insulation. Beldfoil® shield, overall. Chrome vinyl jacket. Nom. O.D., .245″. UL Listed, Style 2606.
100′ Spool, Net..**$12.60** **500′ Spool,** Net..**$57.25** **1000′ Spool,** Net..**$114.45**
Belden No. 9852 (Fig. C)—Dual 200 ohm video twinax. Same as 9851 but four conductor. Nom. O.D., .490″.
100′ Spool, Net..**$41.25** **500′ Spool,** Net..**$193.20** **1000′ Spool,** Net..**$386.40**
Belden No. 9269 (Fig. D)—IBM No. 323921. Type 62A/U. 22 AWG solid bare Copperweld. Semi-solid polyethylene insulation. Bare copper shield. Black, non-contaminating vinyl jacket. Nom. O.D., .242″. UL Listed, Style 1354.
500′ Spool, Net **$51.70** **1000′ Spool,** Net **$103.35** **2000′ Spool,** Net. **$206.70**
Belden No. 9268 (Fig. D)—IBM No. 5252750. Type 62A/U. 22 AWG solid bare Copperweld. Semi-solid flame retardant polyethylene insulation. Bare copper shield. Black vinyl jacket. Nom. O.D., .264″. UL Listed, Style 1354.
500′ Spool, Net..**$64.45** **1000′ Spool,** Net..**$128.85** **2000′ Spool,** Net..**$257.70**

COPPER TAPE SHIELDED PAIRED CABLES

Belden No. 9853 (Fig. E)—Six conductors (3 pairs). 22 AWG solid. Tinned copper, vinyl insulated with nylon over. Copper foil tape shielded twisted pairs, chrome vinyl jacket. Similar to MIL-C-23437, except copper foil shield in place of copper braid. Nom. O.D., .299″. Working voltage, 300 V. Color conductors. **100′ Spool,** Net..... **$ 41.40**
250′ Spool, Net..**$96.00** **500′ Spool,** Net..**$191.95** **1000′ Spool,** Net..**$383.85**
Belden No. 9856 (Fig. E)—Same as 9853, but twelve conductors (6 pairs). Nom. O.D., 450″. **100′ Spool,** Net..... **$80.25** **250′ Spool,** Net..... **$183.70**
500′ Spool, Net..... **$367.35** **1000′ Spool,** Net..... **$734.70**

MULTIPLE UNPAIRED TYPE SO NEOPRENE CONTROL CABLES (FIG. F)

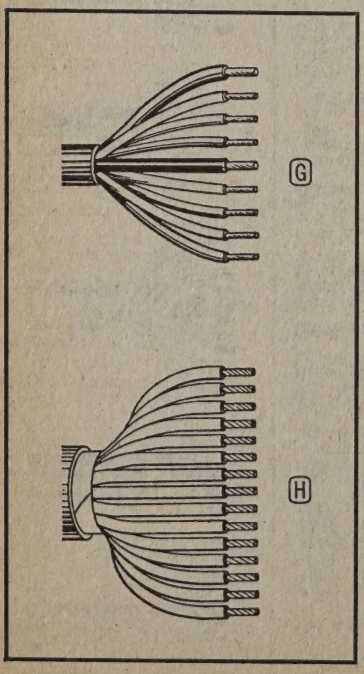
General purpose industrial and utility control applications, remote control of automatic electric equipment and motor control. Heavy duty neoprene jacket offers excellent resistance to oils, acids, oxidation, weathering, ozone abrasion and impact. Bare copper, 16 AWG (65 x 34), rubber insulated, conductors cabled with fillers, black neoprene jacket. Suggested Working Voltage: 600 V.
Color Coding available on request.

Beld. No.	*	Nom. O.D.	Net Each, Spool of 100′	Net Each, Spool of 500′	Net Each, Spool of 1000′
9420	5	.520″	$ 44.70	$217.05	$434.10
9422	7	.560″	58.30	285.70	571.35
9424	9	.620″	74.85	363.70	727.35
9425	12	.720″	100.95	496.35	992.70
9427	16	.800″	126.75	623.80	1247.55
9429	20	.880″	155.95	776.85	1047.00

*No. of conductors.

MULTIPLE UNPAIRED CONTROL AND AUDIO CABLES

Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket. Suggested Working Voltage: 22 AWG, 200 V; 18 AWG, 400 V; 16 AWG and 14 AWG, 600 V. **Color Coding available on request.**



Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 15′	25′	100′	250′	500′	1000′
8443	G	3	22 (7 x 30)	.150″	.....	$2.07	$ 5.45	$11.05	$ 22.05	$ 44.10
8444	G	4	22 (7 x 30)	.168″	.....	2.37	7.25	15.10	30.10	60.15
8445	G	5	22 (7 x 30)	.180″	.....	2.87	8.50	18.00	35.95	71.85
9430	G	7	22 (7 x 30)	.200″	.....	.....	.....	.....	45.40	90.75
8456	G	10	22 (7 x 30)	.260″	.....	.....	16.45	.....	74.35	148.65
8457	G	12	22 (7 x 30)	.260″	.....	.....	18.55	.....	84.55	169.05
8458	G	15	22 (7 x 30)	.320″	.....	.....	29.35	.....	130.15	260.25
9431	G	20	22 (7 x 30)	.345″	.....	.....	.....	.....	168.25	336.45
8459	G	25	22 (7 x 30)	.370″	.....	.....	45.90	.....	210.25	420.45
9432	G	30	22 (7 x 30)	.400″	.....	.....	.....	.....	241.45	482.85
9433	G	40	22 (7 x 30)	.455″	.....	.....	.....	.....	319.30	638.55
9434	G	50	22 (7 x 30)	.500″	.....	.....	.....	.....	398.50	796.95
9444	G	4	20 (10 x 30)	.208″	.....	.....	9.00	.....	39.55	79.05
9445	G	5	20 (10 x 30)	.230″	.....	.....	10.95	.....	47.95	95.85
9439	G	7	20 (10 x 30)	.250″	.....	.....	14.65	.....	64.95	129.90
9455	G	9	20 (10 x 30)	.310″	.....	.....	19.45	.....	87.45	174.90
9457	G	12	20 (10 x 30)	.330″	.....	.....	23.95	.....	109.80	219.60
9458	G	15	20 (10 x 30)	.380″	.....	.....	31.35	.....	146.25	292.50
8446	G	6	4-22 (7 x 30) 2-18 (16 x 30)	.222″	$2.78	.....	12.30	26.85	53.65	107.25
8447	G	7	5-22 (7 x 30) 2-18 (16 x 30)	.246″	.....	.....	14.65	31.30	62.55	125.10
8448	G	8	6-22 (7 x 30) 2-18 (16 x 30)	.250″	3.21	.....	15.45	34.05	68.10	136.20
8449	G	9	7-22 (7 x 30) 2-18 (16 x 30)	.261″	3.39	.....	16.35	36.85	73.60	147.15
8489	G	4	18 (16 x 30)	.250″	.....	.....	13.35	29.40	58.75	117.45
8465	G	5	18 (16 x 30)	.286″	.....	.....	16.45	37.45	74.85	149.70
8467	G	7	18 (16 x 30)	.324″	.....	.....	21.85	49.45	98.80	197.55
8469	G	9	18 (16 x 30)	.379″	.....	.....	28.20	65.55	131.10	262.20
8466	G	12	18 (16 x 30)	.412″	.....	.....	38.85	93.90	187.80	375.60
8468	G	15	18 (16 x 30)	.490″	.....	.....	52.95	.....	249.40	498.75
8619	G	19	18 (16 x 30)	.505″	.....	.....	.....	.....	295.00	589.95
9626	H	25	18 (16 x 30)	.600″	.....	.....	.....	.....	379.65	759.30
8620	H	4	16 (19 x 29)	.375″	.....	.....	20.70	.....	97.15	194.25
9620	H	5	16 (19 x 29)	.405″	.....	.....	27.30	.....	113.80	227.55
8621	H	7	16 (19 x 29)	.455″	.....	.....	38.35	.....	171.00	342.00
9621	H	9	16 (19 x 29)	.510″	.....	.....	.....	.....	211.35	422.70
8622	H	12	16 (19 x 29)	.600″	.....	.....	62.50	.....	288.30	576.60
8623	H	15	16 (19 x 29)	.685″	.....	.....	87.45	.....	414.10	828.15
8624	H	19	16 (19 x 29)	.715″	.....	.....	107.25	.....	503.20	1006.35
9622	H	25	16 (19 x 29)	.820″	.....	.....	.....	.....	578.10	1156.20
8627	H	4	14 (19 x 27)	.495″	.....	.....	37.30	.....	169.95	339.90
9623	H	5	14 (19 x 27)	.560″	.....	.....	45.10	.....	202.75	405.45
8628	H	7	14 (19 x 27)	.630″	.....	.....	62.90	.....	291.30	582.60
8629	H	12	14 (19 x 27)	.770″	.....	.....	105.25	.....	510.40	1020.75

All parts listed on this page pass the FR-1 vertical flame test.

TEST PROD WIRE (FIG. A)

Extremely limp and flexible wire has high dielectric strength. Tinned copper 18 AWG, 65 x 36 stranded, separator, rubber insulated, specify red or black. No. 8897 made per MIL-W-13169. Miniature type 8890, 24 AWG, 45 x 40 stranded tinned copper, cotton separator, rubber insulated, specify red or black.

Belden No.	Nom. O.D.	Breakdown Volts	Suggested Work V‡	Net Each, Spool of 10′	14′*	25′	100′	500′	1000′
8899†	.144″	20,000	5,000	$1.29	$1.44	$2.06	$6.60	$24.25	$48.45
8897	.144″	20,000	5,000	.....	.....	.....	.....	27.60	37.20
8898	.230″	29,000	10,000	1.88	.....	3.36	8.80	36.90	.....
8890	.066″	10,000	1,000	.....	.....	1.70	4.19	17.95	.....

*7 ft. of red; 7 ft. of black. †25′; 100′ and 500′ also available in blue, white, gray, green or yellow. ‡For intermittent duty only.

COILED TEST PROD WIRE (FIG. B)

Coiled test prod wire, prevents that cluttered up work bench. Retracted length 8 inches, stretched length, 5 feet. Tinned copper wire, rubber insulated, red and black. Complete with prods. AWG and stranding, 20 (42 x 36). Nom. O.D., .173″. Breakdown, 20,000 V; suggested working, 5,000 V.

Belden No. 8878—One red and one black. Net per Pair..... $5.55
Belden No. 8879—Same as above, less prods. Net per Pair..... 2.34

UL HOOK-UP AND LEAD WIRES

Fig. C Types UL-300V-80° C (Style 1061): Tinned copper, semi-rigid vinyl insulation. Thin wall hook-up wire; suitable for wire wrap applications.
Fig. D Types UL-600V-105° C (CSA-600V-Type TEW): Tinned copper conductor vinyl insulated.
Fig. E Types UL-600V-90° C (CSA-Type TRB): Tinned copper conductor vinyl insulated with cotton braid, lacquered. All parts listed in following table pass the FR-1 vertical flame test.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of 100′	500′	1000′	4000′#
9977	C	29 (Solid)	.031″	1–5, 7–10, 13	.....	.....	$10.65	.....
9976	C	26 (Solid)	.034″	1 thru 10	.....	.....	9.30	.....
9975	C	24 (Solid)	.038″	1 thru 10	.....	.....	9.90	.....
8920‡	D	22 (7 x 30)	.095″	1–5, 9, 10, 13	$2.82	.....	20.25	16.05*
8919‡	D	20 (10 x 30)	.102″	1–5, 9, 10, 13	3.48	.....	25.65	20.70
8918‡	D	18 (16 x 30)	.112″	1–5, 9, 10, 13	4.31	.....	30.75	27.75
8917‡	D	16 (26 x 30)	.126″	1–5, 9, 10, 13	5.30	22.50	45.00	37.05
8916‡	D	14 (41 x 30)	.141″	1–5, 9, 10, 13	7.50	31.80	.....	.....
8937*	E	22 (7 x 30)	.091″	1–5, 9, 10, 13	3.81	.....	26.55	.....
8936*	E	20 (10 x 30)	.098″	1–5, 9, 10, 13	4.14	.....	32.55	.....
8935*	E	18 (16 x 30)	.113″	1–5, 9, 10, 13	5.30	.....	37.35	.....
8934*	E	16 (26 x 30)	.126″	1–5, 9, 10, 13	6.50	27.30	.....	.....
8933§	E	14 (41 x 30)	.177″	1–5, 9, 10, 13	9.85	43.05	.....	.....

*Rated 600 V peak for electronic circuits only; 300 V for other applications. Style 1009. †Stock Colors: See table below right. ‡Rated 2500 V peak for electronic circuits. Style 1015. §Rated 2500 V peak for electronic circuits only; 600 V for other applications. Style 1014. #Per 1000′. *5000′ spool.

BRAIDED TINNED COPPER SHIELDING AND BONDING CABLES (FIG. F)

Belden No.	Stranding	Nom. I.D.	Net Each, Spool of 10′	50′	250′	Belden No.	Stranding	Nom. I.D.	Net Each, Spool of 10′	50′	250′
8676	16 x 36	1/32″	$1.20	$2.24	$10.00	8669	336 x 34	5/16″	$ 3.48	$14.80	$69.30
8674	24 x 36	3/64″	1.34	3.15	13.95	8672	528 x 36	9/16″†	3.98	16.90	79.45
8652	96 x 40	1/16″	1.53	3.74	15.25	8671	864 x 36	15/16″†	5.30	24.00	115.65
8653	48 x 36	3/32″	1.56	4.08	16.60	8662	576 x 34	19/32″†	4.89	20.80	100.35
8654	72 x 36	7/64″	1.59	4.47	18.90	8655	360 x 30	5/8″†	5.80	28.35	124.95
8664	96 x 36	1/8″	1.70	5.10	21.70	8670	480 x 30	3/4″†	7.50	37.20	162.15
8660	96 x 34	5/32″	1.62	4.79	23.05	8656	576 x 30	7/8″†	9.30	45.75	206.55
8668	120 x 34	3/16″	2.19	6.05	27.15	8657	768 x 30	1 1/16″†	12.45	61.45	.....
8663	168 x 34	5/16″	2.33	7.65	34.65	8658	1056 x 30	1 3/8″†	17.40	86.10	.....
8661	192 x 34	1/2″	2.24	7.15	34.00	8659	1680 x 30	1 1/2″†	26.65	134.05	.....

†Flat width. *Spool may contain more than one piece, minimum length of any one piece is 25 ft.

SOLID TINNED COPPER BUS BAR WIRE (FIG. G)

Made in accordance with Federal Spec QQ-W-343.

Belden No.	AWG	Nom. O.D.	Net Each, Spool of 100′	1000′	Belden No.	AWG	Nom. O.D.	Net Each, Spool of 100′	1000′
8011	12	.080″	$7.95	.....	8021	22	.025″	$1.56	$9.60
8012	14	.064″	5.30	$43.95	8022	24	.020″	1.50	7.80
8013	16	.050″	3.48	29.85	8023	26	.016″	1.46	7.05
8019	18	.040″	2.49	18.90	8024	28	.012″	1.40	6.30
8020	20	.032″	1.86	13.05	8025	30	.010″	1.40	5.85

MIL-W-16878 TYPE B MULTI-CONDUCTOR SHIELDED CABLE (FIG. I)

Suitable for general purpose use in communications and instrumentations applications. Stranded tinned copper conductors, vinyl insulated, clear nylon jacket, conductors cabled, tinned copper braid shield, white vinyl jacket. Insulation .010″ thick. WV, 600 V suggested. Conductor Color Code: **1**, white; **2**, black; **3**, red; **4**, green. Pass the FR-1 vertical flame test.

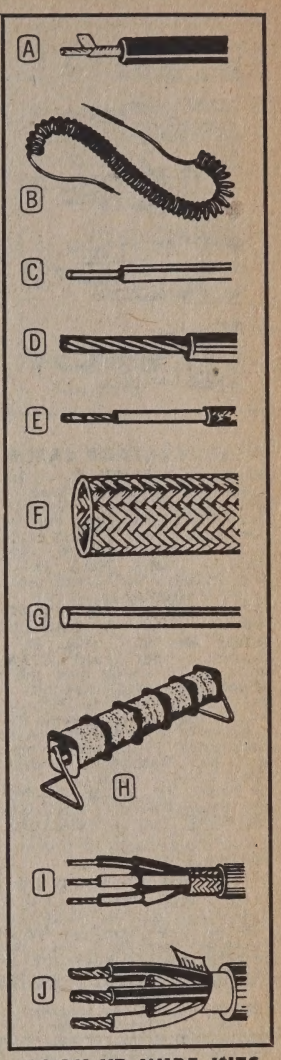
Belden No.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Shield Cov. %	Nom. Cap.* pF/ft.	Net Each, Spool of 100′	500′	1000′
9971	1	24 (19 x 36)	.090″	93	75	$ 8.50	$ 39.25	$ 78.45
9961	1	20 (19 x 32)	.109″	93	100	9.55	43.15	86.25
9951	1	16 (19 x 29)	.139″	93	125	12.60	58.00	115.95
9972	2	24 (19 x 36)	.156″	91	70	11.80	56.35	112.65
9962	2	20 (19 x 32)	.192″	92	95	17.65	79.35	158.70
9952	2	16 (19 x 29)	.238″	92	120	21.25	102.70	205.35
9973	3	24 (19 x 36)	.164″	91	70	15.25	72.45	144.90
9963	3	20 (19 x 32)	.202″	91	95	21.60	104.40	208.80
9953	3	16 (19 x 29)	.250″	91	120	29.35	140.40	280.80
9974	4	24 (19 x 36)	.171″	92	70	18.85	88.00	175.95
9964	4	20 (19 x 32)	.212″	92	95	26.20	125.40	250.80
9954	4	16 (19 x 29)	.262″	91	120	37.15	173.40	346.80

*Capacitance between one conductor and other conductor connected to shield.

MIL-C-3432 600 VOLT POWER AND CONTROL CABLES (FIG. J)

Intended for military applications to transmit power and control signals. Features tough flexible jacket which is resistant to mechanical abuse and extreme humidity and temperature conditions. Tinned copper conductors, rubber insulated, cabled with fillers, cotton serve, black rubber jacket. Conductor Color Coding: **1**, white; **2**, black; **3**, green.

Belden No.	Type Designation	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Insul. Thk.	Net Each, Spool of 500′	1000′
9215	CO-02 MGF (2/18) 0310	2	18 (41 x 34)	.310″	.033″	$ 67.75	$135.45
9216	CO-02 MGF (2/16) 0335	2	16 (65 x 34)	.335″	.033″	82.15	164.25
9217	CO-02 MGF (2/14) 0400	2	14 (41 x 30)	.400″	.036″	108.00	216.00
9218	CO-03 MGF (3/18) 0340	3	18 (41 x 34)	.340″	.033″	83.65	167.25
9219	CO-03 MGF (3/16) 0365	3	16 (65 x 34)	.365″	.033″	112.35	224.70



HOOK-UP WIRE KITS (FIG. H)

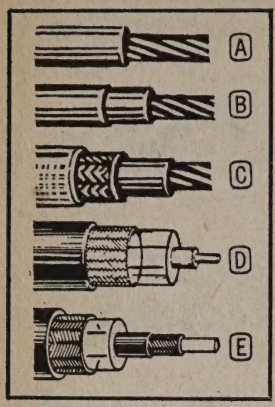
Assortments of hook-up wire colors in portable metal dispenser rack. One spool of each color is supplied. Pass the FR-1 vertical flame test.

Beld. No.	Wire Type and No.	Stock Colors†	Net Kit
8816	18 (Strnd.) 8522-25*	1-6, 9, 10	11.20
8822	20 (Solid) 8529-25*	1-10	11.25
8823	20 (Solid) 8529-100‡	2, 5, 6, 9, 10	12.10
8824	20 (Strnd.) 8523-25*	1-6, 9, 10	10.35
8825	20 (Strnd.) 8502-100‡	2, 4, 5, 9, 10	15.00
9530	22 (Solid) 8530-25*	1-10	10.35
9531	22 (Strnd.) 8524-100‡	2, 5, 6, 9, 10	11.95

*25 ft. spools. ‡100 ft. spools.

†STOCK COLORS

Code No.	Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Light blue
7	Violet (purple)
8	Gray (slate)
9	White
10	Black
13	Dark blue



DC HI-VOLTAGE CABLE

Belden No. 8870 (Fig. D)—Solid Copperweld®, 22 AWG; conductive polyethylene with Korona-Guard™ polyethylene insulation; tinned copper braid equipotential sheath; black polyethylene jacket. Nom. O.D., .440″. Rated 160 kV breakdown, 80,000 V working.
100′ Spool, Net.... **$ 57.40**
250′ Spool, Net.... **143.20**

Belden No. 8871 (Fig. E)—Tinned copper braid (CMA equiv. to 16 AWG) over solid polyethylene rod, black conductive polyethylene with Korona-Guard, clear polypropylene insulation, tinned copper braid, black polyethylene jacket. Nom. O.D., .830″. Rated 400 kV breakdown, 200 kV working.
25′ Spool, Net.... **$ 64.60**
100′ Spool, Net.... **257.65**
250′ Spool, Net.... **643.95**

®TM: Copperweld of Copperweld Steel Corp.

MIL SPEC HOOK-UP WIRE

MIL-W-16878 TYPE B VINYL (FIG. A)

Tinned copper, vinyl insulated for general purpose wiring with high resistance to moisture and solvents. Rated 600 VDC at 105° C. Passes the FR-1 vertical flame test.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of: Solid Colors 100′	Solid Colors 1000′	Striped Colors 100′	Striped Colors 1000′
8599	B-32	32 (7 x 40)	.029″	1–10	$2.81	$19.65	.....	.....
8598	B-30	30 (7 x 38)	.032″	1–10	2.24	15.60	.....	.....
8597	B-28	28 (7 x 36)	.035″	1–10	2.19	14.25	.....	.....
8505	B-26	26 (7 x 34)	.039″	1–10, 14–22	2.18	15.45	$2.33	$16.95
8509	B-24	24 (19 x 36)	.045″	1–10	2.81	17.55	.....	.....
8504	B-24	24 (7 x 32)	.044″	1–10, 14–22	2.18	14.40	2.33	15.90
8503	B-22	22 (7 x 30)	.050″	1–10, 14–22	2.45	15.75	2.60	17.25
8502	B-20	20 (7 x 28)	.058″	1–10, 14–22	3.00	19.05	3.15	20.55
8501	B-18	18 (7 x 26)	.068″	1–10, 14–22	3.21	24.30	3.36	25.80
8500	B-16	16 (19 x 29)	.077″	1–10, 14–22	4.08	32.25	4.23	33.75

MIL-W-16878 TYPE B VINYL-NYLON JACKET—RATED 600 VDC AT 115° C (FIG. B)

Tinned copper conductor, vinyl insulated with nylon jacket overall. Pass the FR-1 vertical flame test.

Belden No.	Type Designation	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of: 100′	1000′
8515	B-26	26 (7 x 34)	.045″	1–10	$3.06	$21.45
8519	B-24	24 (19 x 36)	.051″	1–10	3.21	23.85
8514	B-24	24 (7 x 32)	.050″	1–10	2.99	20.55
8518	B-22	22 (19 x 34)	.057″	1–10	3.63	27.45
8513	B-22	22 (7 x 30)	.056″	1–10	3.26	23.25
8517	B-20	20 (19 x 32)	.065″	1–10	3.89	29.55
8512	B-20	20 (7 x 28)	.064″	1–10	3.42	26.10
8516	B-18	18 (19 x 30)	.075″	1–10	4.77	37.65
8511	B-18	18 (7 x 26)	.074″	1–10	4.32	32.55
8510	B-16	16 (19 x 29)	.083″	1–10	4.53	41.55

MIL-W-76 TYPE MW VINYL (FIG. A)

Tinned copper conductor, vinyl insulated, medium wall. Rated 1000 V at 80° C. Stock Colors†: 25′, colors 1–13; all others, 1–22 except as noted. Pass the FR-1 vertical flame test.

Belden No.	MIL-W-76 Type Designation	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of: Solid Colors 25′	Solid Colors 100′	Solid Colors 1000′	Striped Colors 100′	Striped Colors 1000′
8538	MW-C 24(1)U	24 (Solid)	.054″	.....	$2.04	$11.25	$2.19	$12.75
8525	MW-C 24(7)U	24 (7 x 32)	.058″	.....	2.13	13.95	2.28	15.45
8530§	MW-C 22(1)U	22 (Solid)	.059″	$1.04	2.04	12.75	2.19	14.25
8524§	MW-C 22(7)U	22 (7 x 30)	.064″	1.08	2.39	16.35	2.54	17.85
8529	MW-C 20(1)U	20 (Solid)	.066″	1.13	2.42	16.05	2.57	17.55
8523§	MW-C 20(7)U	20 (10 x 30)	.070″	1.29	2.79	18.60	2.94	20.10
8528‡	MW-C 18(1)U	18 (Solid)	.074″	.....	3.15	22.05	.....	.....
8522§	MW-C 18(16)U	18 (16 x 30)	.080″	1.40	3.32	24.90	3.47	26.40
8521	MW-C 16(19)U	16 (26 x 30)	.098″	.....	4.62	35.85	4.77	37.35
8520	MW-C 14(19)U	14 (41 x 30)	.111″	.....	6.50	56.10	6.65	57.60
8527*	MW-C 12(19)U	12 (65 x 30)	.130″	.....	10.00	81.00	.....	.....
8531*	MW-C 16(1)U	16 (Solid)	.085″	.....	3.90	31.20	.....	.....

Stock Colors†: *1–10 only; ‡1–13 only; §1–30.

MIL-W-16878 IRRADIATED PVC (FIG. A)

Tinned copper, irradiated PVC insulated. UL listed. Meets MIL-W-16878 as follows: (At 105° C max.) Type B, 600 V rms max. Type C, 1000 V rms max. **AWM:** Style 1429, 300 V peak for electronic use only, 80° C max. Style 1430, 300 V rms (600 V peak for electronic use only), 105° C max. Stock Colors†: 1 thru 10. Pass the FR-1 vertical flame test.

Belden No.	MIL-W-16878 Type	Style No.	AWG and (Stranding)	Nom. O.D.	Net Ea. Spool of 1000′
83402	B-26*	1429	26 (Solid)	.039″	$20.70
83403	B-24*	1429	24 (Solid)	.044″	21.25
83404	B-22*	1429	22 (Solid)	.050″	23.40
83412	B-26	1429	26 (7 x 34)	.039″	22.95
83413	B-24	1429	24 (7 x 32)	.044″	23.55
83414	B-22	1429	22 (7 x 30)	.050″	26.65
83415	B-20	1429	20 (7 x 28)	.058″	33.15
83416	B-18	1429	18 (7 x 26)	.068″	41.80
83423	B-24	1429	24 (19 x 36)	.045″	27.90
83424	B-22	1429	22 (19 x 34)	.051″	31.90
83425†	B-20	1429	20 (19 x 32)	.059″	33.90
83443	C-24	1430	24 (7 x 32)	.058″	26.85
83444	C-22	1430	22 (7 x 30)	.064″	32.55
83445	C-20	1430	20 (7 x 28)	.072″	38.10
83446†	C-18	1430	18 (7 x 26)	.082″	44.70

*Solid cond. not recog. in MIL-W-16878. ‡Stock Color†: 9 only.

MIL-W-16878 TEFLON* HOOK-UP WIRE (FIG. A)

Concentrically stranded silver coated copper conductor insulated with extruded TFE Teflon. Pass FR-1 vertical flame test. Colors 1 thru 10.

*Registered DuPont TM.

TYPE EE, 1000 V, 200° C

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of*: 100′	500′	1000′
83023	EE-24	24 (19 x 36)	.053″	$12.20	$40.85	.....
83025	EE-22	22 (7 x 30)	.058″	12.60	42.08	.....
83026	EE-22	22 (19 x 34)	.060″	13.65	48.25	$ 95.00
83027	EE-20	20 (19 x 32)	.068″	16.00	56.93	112.35
83028	EE-20	20 (7 x 28)	.066″	15.00	53.48	.....
83029	EE-18	18 (19 x 30)	.079″	21.05	78.55	155.60
83030	EE-16	16 (19 x 29)	.086″	23.80	91.58	181.65
		TYPE ET, 250 V, 200° C, MINIATURE				
83041	ET-32	32 (7 x 40)	.021″	$6.60	.....	$40.80
83043	ET-30	30 (7 x 38)	.024″	6.60	.....	40.00
83045	ET-28	28 (7 x 36)	.027″	6.60	.....	39.75
83046	ET-26	26 (7 x 34)	.031″	7.60	.....	43.75
83047	ET-24	24 (7 x 32)	.036″	7.80	.....	48.70
83048	ET-24	24 (19 x 36)	.037″	8.75	.....	55.80
83049	ET-22	22 (7 x 30)	.042″	8.60	.....	55.15
83050	ET-22	22 (19 x 34)	.044″	9.15	.....	58.45

*Spools may contain more than one piece. min. lgth. of any one piece is 25 ft.: 500′ and 1000′ lgths. may vary ±10%; 100′lgt hs. exact.

MIL-W-76 TYPE MW SHIELDED WITH NYLON JACKET (FIG. C)

Tinned copper, vinyl insulated, medium wall, tinned copper shield overall. Rated 1000 V at 80° C. Stock Colors†: 9 only.

Belden No.	MIL-W-76 Type Designation	AWG and (Stranding)	Nom. O.D.	Net Ea., Spool 100′	1000′
8893	MW-C 22(7)SJ	22 (7 x 30)	.096″	$ 8.80	$ 69.90
8896	MW-C 20(7)SJ	20 (10 x 30)	.105″	8.65	76.65
8892	MW-C 18(16)SJ	18 (16 x 30)	.114″	9.90	81.00
8894	MW-C 16(19)SJ	16 (26 x 30)	.132″	12.55	110.10

MIL-W-76 TYPE LW VINYL (FIG. A)

Tinned copper, vinyl insulated, light wall. Rated 300 V at 80° C. Stock Colors†: 1 thru 10. Pass FR-1 vertical flame test.

8571	LW-C 28(7)U	28 (7 x 36)	.037″	$1.88	$11.70
8570	LW-C 26(7)U	26 (7 x 34)	.041″	1.91	11.85
8569	LW-C 24(7)U	24 (7 x 32)	.046″	2.04	12.60
8568	LW-C 22(7)U	22 (7 x 30)	.054″	2.10	13.95
8567	LW-C 20(7)U	20 (10 x 30)	.060″	2.66	17.85

MIL-W-76 TYPE HW VINYL (FIG. A)

Tinned copper, vinyl insulated, heavy wall. Gauges 16 and 18 rated 2500 V at 80° C; gauges 6 thru 14 rated 600 V at 80° C. Stock Colors†: 2, 9 and 10. Pass FR-1 vertical flame test.

8586*	HW-C 18(16)U	18 (16 x 30)	.115″	$ 4.71	$ 33.60
8585	HW-C 16(19)U	16 (26 x 30)	.128″	5.60	43.05
8584	HW-C 14(19)U	14 (41 x 30)	.171″	9.45	75.00
8583	HW-C 12(19)U	12 (65 x 30)	.191″	13.05	116.40
8582	HW-C 10(37)U	10 (105 x 30)	.220″	19.30	174.15
8581	HW-C 8(127)U	8 (133 x 29)	.261″	43.00	.....
8580	HW-C 6(127)U	6 (133 x 27)	.310″	56.70	.....

Stock Colors†: *1 thru 10.

†STOCK COLORS

Specify color when ordering. First color in stripe combination is body color; second and third are stripes.

Code No.	Color Comb.	Code No.	Color Comb.	Code No.	Color Comb.
1	Brown	11	Tan	21	Wht/Gray
2	Red	12	Pink	22	Wht/Violet
3	Orange	13	Dark Blue	23	Wht/Blk/Red
4	Yellow	14	Wht/Blk	24	Wht/Blk/Grn
5	Green	15	Wht/Red	25	Wht/Blk/Yel
6	Light Blue	16	Wht/Grn	26	Wht/Blk/Blue
7	Violet (purple)	17	Wht/Yel	27	Wht/Blk/Brn
8	Gray (slate)	18	Wht/Blue	28	Wht/Blk/Orng
9	White	19	Wht/Brn	29	Wht/Blk/Gray
10	Black	20	Wht/Orng	30	Wht/Blk/Violet

TEFLON HIGH TEMPERATURE WIRE AND CABLE

Belden Teflon® wire products are particularly recommended for miniature cable applications. Teflon is especially suitable for internal wiring soldering applications where insulation melt back is a specific problem. Belden Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame, and their ability to remain flexible at low temperatures. All have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic hydrocarbons and solvents.

MIL-W-16878, TYPE E TEFLON HOOK-UP WIRE (FIG. A)

Concentrically stranded, silver-coated copper conductor with extruded TFE Teflon insulation rated 600 volts, 200° C. Pass the FR-1 vertical flame test.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Ins. Thick-ness	Net Each, Spool of			
					Solid Colors†			Striped‡
					100′*	500′*	1000′*	1000′*
83000	E-30	30 (7 x 38)	.033″	.010″	$ 6.69	$19.73	$ 37.95	.....
83001	E-28	28 (7 x 36)	.036″	.010″	7.02	20.83	40.15	.....
83002	E-26	26 (7 x 34)	.041″	.010″	7.80	23.70	45.90	$ 68.40
83003	E-24	24 (19 x 36)	.046″	.010″	9.60	31.35	.....	.....
83004	E-24	24 (7 x 32)	.045″	.010″	8.20	26.23	50.95	73.45
83005	E-22	22 (7 x 30)	.051″	.010″	9.45	30.95	60.40	82.90
83006	E-22	22 (19 x 34)	.052″	.010″	10.45	35.23	68.95	91.45
83007	E-20	20 (19 x 32)	.060″	.010″	12.10	42.35	83.20	105.70
83008	E-20	20 (7 x 28)	.059″	.010″	11.25	39.60	.....	.....
83009	E-18	18 (19 x 30)	.071″	.010″	16.30	60 23	118.95	141.45
83010	E-16	16 (19 x 29)	.080″	.010″	19.80	75.50	149.60	172.10

MIL-W-16878, TYPES EE AND ET TEFLON HOOK-UP WIRE (FIG. A)

Same as above except Type EE rated 1000 V, 200° C; Type ET rated 250 V, 200° C. Specifications and pricing on request.

TEFLON-INSULATED RG/U TRANSMISSION LINE CABLES (FIG. B)

Meet MIL-C-17D specifications. Silver-coated Copperweld® conductors with TFE Teflon insulation and silver-coated copper shields. Pass the FR-1 vertical flame test.

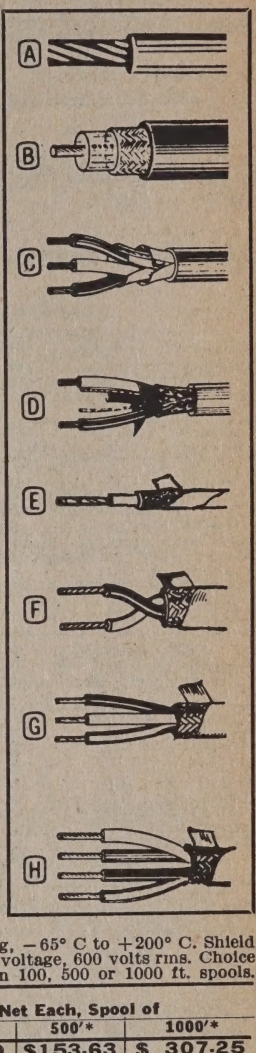
Belden No.	No. RG-	AWG and (Stranding)	No. Shields	Jack-et§	Nom. O.D.	Nom. Imp., Ohms	Net Each, Spool of		
							100′*	500′*	1000′*
83241	141A/U	18 (Solid)	1	BF	.190″	50	$70.30	$327.85	$649.70
83242	142B/U	18 (Solid)	2	TBF	.195″	50	86.80	410.03	814.05
83265	178B/U	30 (7 x 38)	1	TBF	.070″	50	20.10	86.63	.....
83264	179B/U	30 (7 x 38)	1	TBF	.100″	75	34.65	149.75	295.00
83266	180B/U	30 (7 x 38)	1	TBF	.140″	95	45.55	204.60	.....
83284	316/U	26 (7 x .0067)	1	TBF	.098″	50	33.00	146.85	289.20

FEP TEFLON-INSULATED SPECIAL INSTRUMENTATION CABLES

Noise reducing tape applied over insulated conductors minimizes generated noise due to cable flexing. Shield coverage, 100%. **Operating Temperature:** −70° C to +150° C. **Jacket Working Voltage:** 1000 VDC, shield to ground. **Nos. 83394, 83395 and 83396:** Tinned copper, insulated with FEP Teflon, conductors cabled, noise reducing tape, 22 AWG (7 x 30) nickel coated copper drain wire, special Beldfoil® shield, red silicone rubber jacket. **No. 83393:** Same except 20 AWG (7 x 28) nickel coated copper drain wire and yellow silicone rubber jacket.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Thickness		Nom. O.D.	Conductor Color Coding	Net Each, Spool of		
				Insu-lation	Jack-et			25′	100′	500′
83394•	C	2	22 (7 x 30)	.015″	.030″	.204″	Blk, wht	$11.40	$43.60	$217.58
83395•	C	3	22 (7 x 30)	.015″	.030″	.213″	Blk, wht, red	14.40	54.15	264.00
83396•	C	4	22 (7 x 30)	.015″	.030″	.222″	Blk, wht, red, grn	16.35	63.00	305.25
83393	D	2	20 (7 x 28)	.020″	.030″	.245″	Blk, red	15.85	62.70	303.20

*Spools may contain more than one piece, minimum length of any one piece is 25 ft.; 500′ and 1000′ lengths may vary ±10%, all other lengths are exact. †Specify brown, red, orange, yellow, green, light blue, violet (purple), gray (slate), white, or black. ‡Write for information on color striping (1, 2 or 3 stripes) available at price shown. §BF indicates brown fiberglass; TBF, tinted brown FEP Teflon; WTT, white Teflon tape. #Manufactured to current Government specifications and subsequent revisions. •Pass the FR-1 vertical flame test.

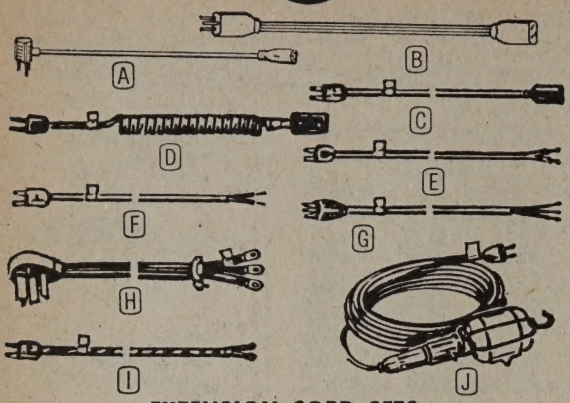


MIL-W-16878, TYPE E SHIELDED TEFLON CABLES

Feature stranded silver-coated copper conductors, MIL-W-16878, Type E extruded TFE Teflon insulation, color-coded, cabled, braided silver-plated copper shield, and white TFE Teflon tape wrapped jacket. Temperature rating, −65° C to +200° C. Shield coverage, 90%. Suggested working voltage, 600 volts rms. Choice of 1-, 2-, 3 or 4-conductor types in 100, 500 or 1000 ft. spools.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Thickness		Nom. O.D.	Conductor Color Coding	Net Each, Spool of		
				Insu-lation	Jack-et			100′*	500′*	1000′*
83301	E	1	30 (7 x 38)	.010″	.010″	.074″	Wht	$ 39.30	$153.63	$ 307.25
83302	E	1	28 (7 x 36)	.010″	.010″	.078″	Wht	40.95	155.63	311.25
83303	E	1	26 (7 x 34)	.010″	.010″	.082″	Wht	43.05	161.70	323.40
83304	E	1	24 (19 x 36)	.010″	.010″	.088″	Wht	46.55	175.58	351.15
83305	E	1	22 (19 x 34)	.010″	.010″	.094″	Wht	48.70	183.68	367.35
83306	E	1	20 (19 x 32)	.010″	.010″	.103″	Wht	54.60	204.45	408.90
83307	E	1	18 (19 x 30)	.010″	.010″	.113″	Wht	65.70	266.65	533.30
83308	E	1	16 (19 x 29)	.011″	.012″	.123″	Wht	76.05	292.88	585.75
83315	F	2	30 (7 x 38)	.010″	.010″	.106″	Wht, blk	55.70	230.18	460.35
83316	F	2	28 (7 x 36)	.010″	.010″	.112″	Wht, blk	58.45	235.88	471.75
83317	F	2	26 (7 x 34)	.010″	.010″	.120″	Wht, blk	61.70	246.68	493.35
83318	F	2	24 (19 x 36)	.010″	.010″	.132″	Wht, blk	65.70	262.95	525.90
83319	F	2	22 (19 x 34)	.010″	.010″	.144″	Wht, blk	75.90	292.05	584.10
83320	F	2	20 (19 x 32)	.010″	.012″	.162″	Wht, blk	80.00	329.40	658.80
83321	F	2	18 (19 x 30)	.010″	.012″	.188″	Wht, blk	100.80	419.10	838.20
83322	F	2	16 (19 x 29)	.011″	.012″	.200″	Wht, blk	130.35	545.18	1090.35
83330	G	3	30 (7 x 38)	.010″	.010″	.111″	Wht, blk, red	74.40	295.35	590.70
83331	G	3	28 (7 x 36)	.010″	.010″	.117″	Wht, blk, red	75.45	303.15	606.30
83332	G	3	26 (7 x 34)	.010″	.010″	.126″	Wht, blk, red	80.70	332.63	665.25
83333	G	3	24 (19 x 36)	.010″	.010″	.136″	Wht, blk, red	89.25	367.50	735.00
83334	G	3	22 (19 x 34)	.010″	.012″	.156″	Wht, blk, red	99.65	410.85	821.70
83335	G	3	20 (19 x 32)	.010″	.012″	.175″	Wht, blk, red	116.35	479.75	959.50
83336	G	3	18 (19 x 30)	.010″	.012″	.196″	Wht, blk, red	138.75	568.43	1136.85
83337	G	3	16 (19 x 29)	.011″	.012″	.218″	Wht, blk, red	196.00	820.00	1640.00
83345	H	4	30 (7 x 38)	.010″	.010″	.119″	Wht, blk, red, grn	95.55	389.00	778.00
83346	H	4	28 (7 x 36)	.010″	.010″	.126″	Wht, blk, red, grn	97.75	405.50	811.00
83347	H	4	26 (7 x 34)	.010″	.010″	.135″	Wht, blk, red, grn	103.95	431.90	863.80
83348	H	4	24 (19 x 36)	.010″	.012″	.151″	Wht, blk, red, grn	119.85	490.65	981.30
83349	H	4	22 (19 x 34)	.010″	.012″	.166″	Wht, blk, red, grn	133.65	548.05	1096.10
83350	H	4	20 (19 x 32)	.010″	.012″	.185″	Wht, blk, red, grn	145.05	607.00	1214.00
83351	H	4	18 (19 x 30)	.010″	.012″	.215″	Wht, blk, red, grn	188.80	787.88	1575.75
83352	H	4	16 (19 x 29)	.011″	.014″	.235″	Wht, blk, red, grn	251.45	1039.50	2079.00

*Spools may contain more than one piece, minimum length of any one piece is 25 ft.; 500′ and 1000′ lengths may vary ±10%, but 100′ length is exact. All parts listed in above table pass the FR-1 vertical flame test. ®TM: Teflon of DuPont; Copperweld of Copperweld Steel Co.; Beldfoil of Belden.



EXTENSION CORD SETS

THREE-CONDUCTOR ADD-A-LINE (FIG. A)

Type SJT vinyl cordage 8-ft. and 15-ft. black extension cords have added convenience of an outlet in the adapter plug so you can add a line. Molded vinyl grounding connector, PH-108. Vinyl adapter plug, PH-267. Nominal O.D., .328". Blue Flag label. Certified to CSA Standards.

Belden Number	Length, Feet	AWG (Strands)	Rating	Net Each
17462S	8	18 (16 x 30)	1250 W, 10A–125V	$3.01
17463S	15	18 (16 x 30)	1250 W, 10A–125V	4.06

THREE-CONDUCTOR FLAT YELLOW (FIG. B)

Type SPT-3 vinyl cordage flat yellow extension cords for most light duty purposes. Molded vinyl grounding plug, PH-310. Molded vinyl grounding connector, PH-32. Nom. O.D., .239" x .517".

17196S	25	14 (41 x 30)	1875 W, 15A–125V	$ 6.40
17198S	50	14 (41 x 30)	1875 W, 15A–125V	10.56
17192S	100	14 (41 x 30)	1625 W, 13A–125V	19.89

TWO-CONDUCTOR, SINGLE CONNECTOR (FIG. C)

Unbreakable, molded vinyl, cord-holder plug; unbreakable molded vinyl connector unless otherwise noted. Two-conductor rubber cordage. Blue Flag label.

Belden Number	Length, Ft.	AWG (Strands)	Cord-age	Color	Net Each
17259S	9	18 (41 x 34)	SV	Gray	$1.49
17260S	8	18 (41 x 34)	SVT	Gray	1.30
17359B*	10	18 (16 x 30)	SJT	Gray	1.47
17361S	10	16 (26 x 30)	SJ	Black	1.81
17555S	25	16 (65 x 34)	S	Black	5.25
17556S	50	16 (65 x 34)	S	Black	9.30

*Has molded vinyl connector with dummy center contact.

APPLIANCE CORDS (FIG. D)

Coiled or standard cords, black only. Unbreakable, vinyl molded plug on HPN parallel neoprene heater cord with appliance plug. Blue Flag label.

Belden Number	Lgth., Ft.	AWG (Stranding)	Type Appliance Plug	Amps at 125 V	Net Each
17886S	4*	18 (41 x 34)	Min. slotted	.....	$1.81
17826S†	6	16 (65 x 34)	Terms. for #8 screw	15	.80
17852S	2	18 (41 x 34)	Min. slotted	.....	.74
17866S§	6	18 (41 x 34)	Min. slotted	.....	.96
17857S	6	18 (41 x 34)	Std. appliance	10	1.09
17870S‡	8	16 (65 x 34)	Std. extension cord	15	1.23
17876S	6	16 (65 x 34)	Roaster appl.	15	1.25

*Coiled types; extended length. †Without appliance plug; Tan Flag label. ‡Has molded vinyl connector for blade prongs. §Specify black or ivory.

POWER SUPPLY CORDS

PARALLEL LAMP CORDS (FIG. E)

Unbreakable molded vinyl plug on parallel lamp cord; two conductors, AWG stranding 18 (41 x 34); conductors split 1" and stripped and twisted ⅝". Tan Flag label.

Belden Number	Length, Feet	Cord Type	Specify Color	Net Each
17106S	6	SPT-1 vinyl	Brown, gray, ivory	$0.58
17109S	9	SPT-1 vinyl	Brown, white	.70
17112S	12	SPT-1 vinyl	Brown, white	.88
17126S	6	SP-1 rubber	Brown	.70
17129S	9	SP-1 rubber	Brown	.93

SVT, SV, SJ, SVO TWO-CONDUCTOR CORDS (FIG. F)

Power supply type for mixers, tools, etc. Unbreakable, molded vinyl, cord-holder plug; two-conductor cord; outer jacket stripped 1½"; conductors stripped and twisted ⅝". Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Type Cord	Color	Net Each
17205S	6	18 (41 x 34)	SVT vinyl	Gray	$0.85
17206S	6	18 (41 x 34)	SV rubber	Gray	1.01
17249S*	6	18 (41 x 34)	SVO neoprene	Black	1.98
17308S	8	18 (16 x 30)	SJ rubber	Black	1.15
17310S	10	18 (16 x 30)	SJ rubber	Black	1.30
17328S	8	16 (26 x 30)	SJ rubber	Black	1.34
17330S	10	16 (26 x 30)	SJ rubber	Black	1.54

*Coiled; conductors stripped ½" and tinned.

THREE-CONDUCTOR CORDS (FIG. G)

Heavy-duty for tools and appliances requiring grounding. Withstands crushing, twisting and pulling. Unbreakable, molded, vinyl grounding plug; outer jacket stripped 2"; conductors stripped and twisted ⅝". Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Type Cord	Color	Net Each
17236S†	6	18 (41 x 34)	SV rubber	Black	$1.36
17237S†	6	18 (41 x 34)	SVT vinyl	Gray	1.20
17238S†	8	18 (41 x 34)	SV rubber	Black	1.54
17239S†	8	18 (41 x 34)	SVT vinyl	Gray	1.34
17276C†	20	16 (26 x 30)	SJT vinyl	Gray	3.18
17405S	6	18 (16 x 30)	SJT vinyl	Gray	1.15
17406S	6	18 (16 x 30)	SJ rubber	Black	1.33
17407S	8	18 (16 x 30)	SJT vinyl	Gray	1.38
17408S	8	18 (16 x 30)	SJ rubber	Black	1.49
17409B	8	18 (16 x 30)	SJO neoprene	Black	1.39
17412S	12	18 (41 x 34)	SJ rubber	Black	2.10
17419S	9	16 (65 x 34)	SJ rubber	Black	2.00
17422S	12	16 (65 x 34)	SJ rubber	Black	2.48
17425S	15	16 (65 x 34)	SJ rubber	Black	3.14
17447S#	6	18 (41 x 34)	SJO neoprene	Black	2.66
17448S#	6	16 (65 x 34)	SJO neoprene	Black	2.82
17449S#	12	16 (65 x 34)	SJO neoprene	Black	3.92
17629S*	9	14 (41 x 30)	S rubber	Black	3.55
17635S*	15	14 (41 x 30)	S rubber	Black	5.70

*For heavy-duty power tools; conductors stripped and twisted ¾". †Outer jacket stripped 1½". #Coiled. Outer jacket stripped 1½"; conductors stripped and tinned ½".

DRYER CORDS (FIG. H)

Molded vinyl three-prong right-angle plug; flat vinyl, three-conductor, gray SRDT cordage with conductors split 2¾" and terminals for ¼" stud; strain relief clamp. Rated 30 A, 250 V. AWG #10. Green Flag label.

Belden Number	Length, Ft.	Net Each	Belden Number	Length, Ft.	Net Each
1780S	3	$2.74	1782S	6	$4.02
1734S	4	3.14	1787B	10*	5.49
1735S	5	3.54			

*10 ft. cords not recognized by UL.

ELECTRIC RANGE CORDS (FIG. H)

Easier to install and require less space than standard round type. Molded, right-angle plug has three prongs; flat vinyl three-conductor SRDT cordage is gray; conductors split 2¾" with terminals for ¼" stud; strain relief clamp. Green Flag label.

Belden Number	Lgth., Ft.	Rating	Conductors	Net Each
1706S	3	50 A—250 V	2 #6—1 #8	$3.46
1714S	4	50 A—250 V	2 #6—1 #8	4.27
1715S	5	50 A—250 V	2 #6—1 #8	4.98
1775S	6	50 A—250 V	2 #6—1 #8	5.78
1777B	10*	50 A—250 V	2 #6—1 #8	8.54
1709S	3	40 A—250 V	2 #8—1 #10	2.90
1724S	4	40 A—250 V	2 #8—1 #10	3.46
1725S	5	40 A—250 V	2 #8—1 #10	3.90
1785S	6	40 A—250 V	2 #8—1 #10	4.54

*10 ft. lengths not recognized by UL.

HEATER APPLIANCE CORDS (FIG. I)

Type HPD recommended for irons and similar uses where flexibility is important and for use where cord is subjected to abrasion. Unbreakable, molded vinyl cord-holder plug. HPD asbestos cotton braid cord is black with spiral white tracer. Braid is stripped 1⅛" with fiber glass tie, eyelets for #8 screw except as otherwise noted. Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Stranding)	Amps at 125 V	Type Cotton	Net Each
17723C*†	8	18 (41 x 34)	10	Glazed	$1.82
17722C	8	18 (41 x 34)	10	Glazed	1.79
17727S	8	16 (65 x 34)	15	Glazed	1.57
17728S‡	8	16 (65 x 34)	15	Glazed	1.55
17726C*	8	16 (65 x 34)	15	Glazed	2.03
17707B	8	18 (41 x 34)	10	Soft	1.23

*Neoprene protector sleeve with metal strain relief. †Spade terminals. ‡Braid stripped 1½", conductors stripped and twisted ⅝".

Same as HPD types above except with hi-temp. plastic fixed strain relief. Rated 10 A, 125 V; 8-ft. lg.; 18 (41 x 34).

Belden Number	Legs, Inch	Termi-nals	Net Each	Belden Number	Legs, Inch	Termi-nals	Net Each
17724C	1 1/16	#8 screw	$1.36	17732S	1¼	Snap on	$1.57
17731S	2 21/32	Snap on	1.57	17733S	1 1/16	#6 screw	1.57

CORDLITES® (FIG. J)

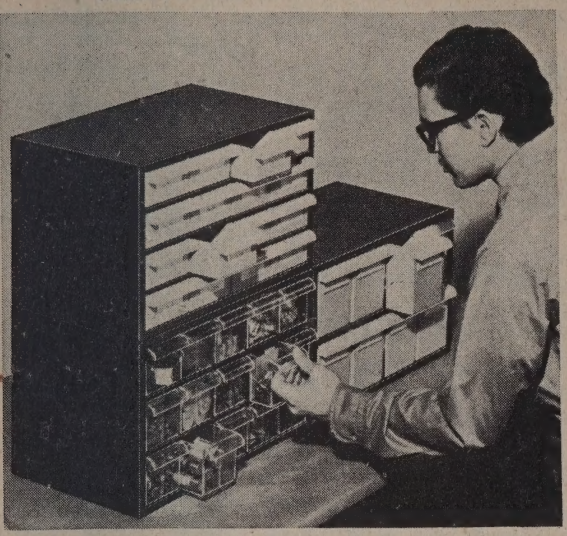
Switched trouble lights with lamp guard and one tool tap on handle; SJO neoprene black cord. Oil and ozone resistant. Models with reeled cords and reeled extensions also available. Blue Flag label.

Belden Number	Length, Ft.	AWG, No. Conds.	Type Cord	Net Each
17998S*	25	16–3	SJO neoprene	$13.17
17999S*	50	16–3	SJO neoprene	21.09

*Have 3-conductor tool taps. Three-contact 15 amp, 125 V grounding type.

Vacuum Cleaner, Air Conditioner, Lawn Mower, Heavy Duty extensions and other specialty cords available on request.

HEAVY-DUTY WELDED STEEL FRAME—MOLDED STYRENE DRAWERS



COMPACT MODULAR CABINET—10 DRAWER SIZES

STORE—Small parts, electronic components, medical supplies, A-V material, hardware, tools, instruments.

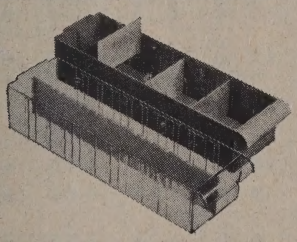
SAVE TIME—Instantly locate parts and supplies.

SAVE SPACE—Pick the right drawer for your requirements, compact modular cabinets are only 18" w. x 11" h. except 17-136, 9½" h. and 17-018, 9" h.

VERSATILE—Stack horizontally or vertically, wall mount, place on carts or shelves.

HEAVY-DUTY STEEL FRAME CABINET

Charcoal gray baked enamel finish, steel drawer supports, nesting "feet" for stability in stacking.



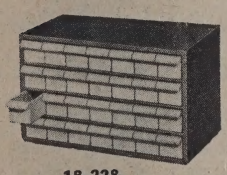
MOLDED STYRENE DRAWERS—TWO TYPES

GRAY HEAVY-DUTY—Virtually unbreakable, guaranteed for life, will not crack, break or dent.

TRANSPARENT—See-thru for quick visual checks; medium duty.

Styrene drawers are lightweight; rust and corrosion proof; safe, no sharp edges; spill proof, retaining tab holds open drawers. All drawers can be partitioned with dividers into sub-compartments. Patented locking dividers will not creep or slip.

FRAME SIZE 18" W. X 11" H. X 11" D.



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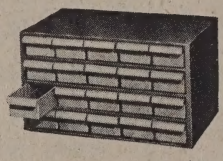

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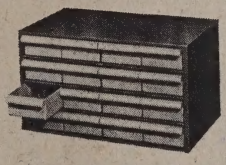

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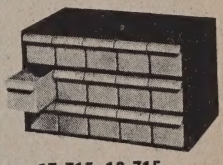

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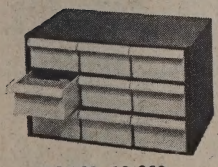

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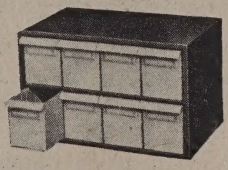
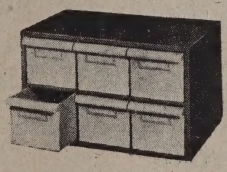
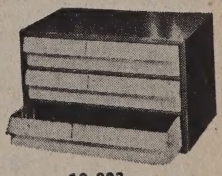


18-608



18-956



18-803

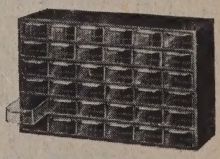
ORDERING AND PRICING INFORMATION

Akro-Mils Cabinet No.*		Drawer				Shp. Wt., Lbs.	Net Each	Extra Dividers			
Trans-parent Drawers	Gray Heavy-Duty Drawers	per Cab-inet	Size, Inches W.	H.	D.			Cross No.	Net per Pkg. (25)	Length No.	Net per Pkg. (10)
17-136	.....	36	2¾	1¼	5⅞	12	$19.70	40-501	$0.98	42-121†	$2.22
.....	18-228	28	2⅛	2⅛	11	22	32.55	42-201	2.92	.....	.....
17-018	.....	18	2¾	2½	5⅞	10	19.70	40-901	1.83	.....	.....
17-320	18-320	20	3⅛	2⅛	11	21	29.35	42-301	1.83	42-431	1.83
17-416	18-416	16	4	2⅛	11	20	29.35	42-401	2.22	42-431	1.83
17-715	18-715	15	3⅛	3½	11	20	29.35	43-101	2.75	43-331	2.75
17-909	18-909	9	5¼	3½	11	18	29.35	43-301	2.93	43-331	2.75
.....	18-608	8	4	4¾	11	22	29.35	44-401	3.52	.....	.....
.....	18-956	6	5¼	4¾	11	22	29.35	44-501	3.85	.....	.....
.....	18-803	3	16¾	3½	11	18	25.70	.....	.....	43-331	2.75

*One cross divider per drawer furnished except 18-803. †Pkg. of 25.

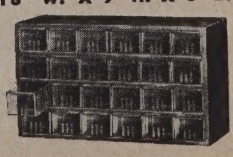
FRAME SIZE 18" W. X 9½" H. X 6" D.

17-136



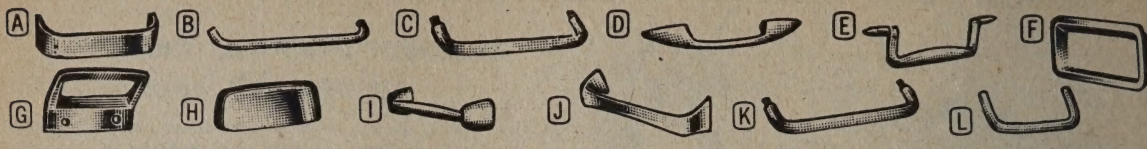
FRAME SIZE 18" W. X 9" H. X 6" D.

17-018



Cabinet Hardware, Brackets

BUD HANDLES



Fabricated from steel, brass or cast aluminum. Durable finish provides long wear and attractive appearance. Skin packed in pairs or bulk packed (priced singly) with all necessary mounting hardware. Designed for rugged applications, they have unlimited use in electronic, electrical and other fields.

Bud No.	Fig.	Description	Net per Pair, Lots of 1-49	50-99	100-149	Bulk Pack:* Net Ea., Lots of 1-99	100-199	200-499
H-9100	A	1″ x ¼″ chrome plated solid brass; 4″ x ½″ mtg. centers; 1″ hand clearance; four ½″ x 6-32 threaded screws	$11.50	$10.35	$ 9.20	$4.65	$4.20	$3.70
H-9101	A	Same, but 8″ x ½″ mtg. centers	17.40	15.65	13.90	7.60	6.85	6.10
H-9102	A	⅝″ x ¼″ chrome plated solid brass; 4″ mtg. centers; 1″ hand clearance; two ½″ x 6-32 threaded screws	8.25	7.45	6.60	3.85	3.45	3.10
H-9103	A	Same, but has 6″ mounting centers	10.45	9.40	8.35	4.65	4.20	3.70
H-9110	B	⅜″ steel rod angular formed, chrome plated; 6″ mtg. centers; 1¼″ hand clearance; two ½″ x 10-32 screws	7.20	6.50	5.75	2.45	2.20	1.95
H-9111	B	⅜″ steel rod, chrome plated, 4″ mtg. centers; 1″ hand clearance; two ½″ x 10-32 threaded screws	3.85	3.45	3.10	1.75	1.60	1.40
H-9112	B	6″ mtg. center version of H-9111	4.30	3.85	3.45	1.90	1.70	1.50
H-9113	B	8″ mtg. center version of H-9111	4.90	4.40	3.90	2.00	1.80	1.60
H-9114	B	½″ steel rod, chrome plated; 8″ mtg. centers; 1½″ hand clearance; two ½″ x ¼-28 thd. screws	7.95	7.15	6.35	2.90	2.60	2.30
H-9115	C	⅜″ steel rod, chrome plated; 4″ mtg. centers; 1⅝″ hand clearance; two ¼-28 thd. nuts	6.05	5.45	4.85	2.30	2.05	1.85
H-9116	C	Same, but has 6″ mtg. centers	6.75	6.10	5.40	2.45	2.20	1.95
H-9120	D	Silver-anodized diecast aluminum; 4⅜″ inside, 5⅜″ outside mtg. centers; 1″ hand clearance; four ½″ x 6-32 threaded screws	10.10	9.10	8.10	4.40	3.95	3.50
H-9121	D	Same, except chrome plated alloy	13.45	12.10	10.75	5.80	5.20	4.65
H-9123	D	Similar to H-9120 but 4½″ mtg. centers; 1″ hand clearance; two ½″ x 10-32 thd. screws	6.70	6.05	5.35	2.75	2.50	2.20
H-9122	E	Silver-anodized diecast aluminum; hinged on ¼″ steel pins with 2 hinge blocks; 6½″ inside, 7¼″ outside mtg. centers; 1½″ hand clearance; four ⅜″ x 10-32 threaded screws	18.10	16.30	14.50	8.10	7.30	6.50
H-9130	F	Silver-anodized diecast aluminum; 3″ mtg. centers; two ⅜″ x 10-32 thd. screws; size 4 15/16″ x 3″	14.80	13.30	11.85	6.75	6.10	5.40
H-9131	G	Silver-anodized diecast aluminum; size, 4″ x 2⅞″; 2¼″ mtg. centers; two ¾″ x ¼-28 thd. raised, countersunk screws and nuts	9.05	8.15	7.25	4.00	3.60	3.20
H-9140	H	Silver-anodized diecast aluminum; 3½″ mtg. centers; ¾″ hand clearance; two ½″ x 10-32 threaded screws	5.30	4.75	4.25	2.35	2.10	1.90
H-9149	.....	5¼″ x 3 13/16″ black shell, chrome handle; flip-up and out handle lies flat in frame when not in use; for Classic Series cabinets; four 8-32 x ½″ countersunk screws with nuts	17.80	16.00	14.25	7.90	7.10	6.30
H-9150	I	Silver-anodized diecast aluminum; 4″ x ⅝″ mtg. centers; 1¼″ hand clearance; four ½″ x 10-32 threaded screws	7.65	6.90	6.10	3.30	2.95	2.65
H-9151	J	Silver-anodized diecast aluminum; 5 5/32″ x ⅝″ mtg. centers; 1⅜″ hand clearance; four ½″ x 10-32 threaded screws	13.05	11.75	10.45	5.55	5.00	4.45
H-9152	J	Similar to above except 3⅞″ mtg. centers; 1⅛″ hand clearance; two ½″ x 10-32 threaded screws	10.20	9.20	8.15	4.45	4.00	3.55
H-9160	K	Chrome plated ⅜″ steel rod; 3½″ mtg. centers; 1 1/16″ hand clearance; two ¼″-28 hex nuts	6.60	5.95	5.30	2.45	2.20	1.95
H-9161	K	Same, but with 5¼″ mounting centers	7.35	6.60	5.90	2.75	2.50	2.20
H-9162	K	Same, but with 7″ mounting centers	7.65	6.90	6.10	2.75	2.50	2.20
H-9163	K	Same, but with 8¾″ mounting centers	7.95	7.15	6.35	2.90	2.60	2.30
H-9164	K	Same, but with 10½″ mounting centers	9.05	8.15	7.25	3.05	2.75	2.45
H-9165	K	Same, but with 12¼″ mounting centers	9.80	8.80	7.85	3.35	3.00	2.70
H-9166	L	Chrome plated ¼″ brass rod; 1 23/32″ mtg. centers; 1″ hand clearance; two ½″ x 6-32 thd. screws	2.90	2.60	2.30	1.30	1.15	1.05
H-9168	L	Same, but 3″ mtg. centers; two ½″ x 6-32 thd. screws	3.30	2.95	2.65	1.35	1.20	1.10

*Number shown is for skin packed pairs. For bulk packed handles (priced singly), add suffix **B** to number (example: H-9100**B**).

TRUCK CASTERS

Use with all Bud relay racks and other floor mounted units. Ball bearing wheels are hard tread composition. **RC-7756** is for heavy duty applications; **RC-7758** is for extra heavy duty use (Series 60 Racks and Series 2000 Racks).

Bud No.	Height	Weight (Set of 4)	Net Each, Lots of 1-24	25-49	50-99
RC-7756	2⅝″	1¾ lbs.	$1.75	$1.60	$1.40
RC-7758	3¼″	6 lbs.	4.60	4.15	3.70

DOOR HANDLES, CATCH SETS

No. H-9347: Fits flush with cabinet door; exposed parts chrome plated. **Nos. H-3360 and HL-3361:** Lever-type handles are satin chrome plated with steel spindle and cam; fit Super Deluxe racks.

Bud No.	Description	Net Each, Lots of 1-49	50-99	100-149
H-3360	Non-locking handle	$ 7.20	$6.50	$5.75
HL-3361	3360 with lock and key	10.95	9.85	8.75
H-9347	Flush-mount catch set	2.20	2.00	1.75

RUBBER FEET

No. F-7264A: Has recessed head with mounting stud; rubber portion 15/16″ x 1½″ thick. **No. F-8038:** May be applied to any surface; ¾″ dia. x ⅛″ thick self adhesive sponge rubber pad. **No. F-9653:** Press-fit type for 7/16″ hole.

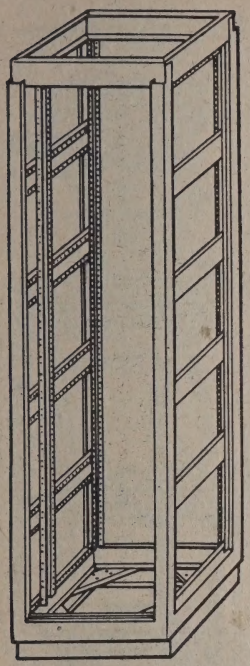
Bud No.	Description	Net per 100, Lots of 1-99	100-199	200-299
F-7264A	High grade black rubber	$16.70	$15.05	$13.35
F-8038	Sponge rubber pad	4.10	3.70	3.30
		1-49	50-99	100-149
F-9653	Top grade gray rubber	$8.00	$7.20	$6.40

SPEAKER ENCLOSURE HANDLES

Attach to any small housing or speaker enclosure to achieve portability. Made of aluminum tubing with etched finish.

Bud No.	Length, Inches	Mtg. Ctrs., Inches	Net Each, Lots of 1-49	50-99	100-149
UH-70A	5⅛	4⅝	$1.00	$ .90	$ .80
UH-71A	3¼	3¼	.85	.75	.70

Series "60" Cabinet Racks



Ⓐ Upright Rack

Scientifically designed to meet all requirements for human needs as well as component physical specifications; the most practical cabinet rack developed for either a single piece of equipment or a large instrumentation system. Very economical to the user, units are shipped fully assembled and ready for immediate use.

Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical adjustable mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 18 gauge steel. Door may be mounted to open left or right. Vertical channel, 4" wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32 W.E. spacing. Rear rails are drilled according to universal spacing.

All Series Sixty enclosures may be quickly combined with each other to create units of any desired width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed.

Standard finishes are textured baked enamel over primer. Specify two-tone gray by adding suffix **GGY**. For two-tone blue, add suffix **BBY** to order number. Standard Bud relay rack panels are available for the Series Sixty racks. (See Relay Rack Panels for colors available.)

UPRIGHT CABINET RACKS (FIG. A)

Completely assembled 19" racks with sides, rear door and top. Standard units have plain sides and door and solid top. For greater ventilation, order units with louvered sides and rear door and solid top. Width, 24⅛". Inside depth 20½" clear on all units with 22" outside depth; 24", all others. Top opening 18⅝" w. x 17" d. on units with 22" outside depth; 18⅝" w. x 20½" d., all others. **Specify Color When Ordering:** Add suffix **GGY** to number for gray; suffix **BBY** for blue.

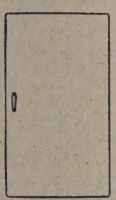
COMPLETE 19" RACKS WITH PLAIN SIDES AND DOOR

Bud No.	Height	Outside Depth	Panel Space	Weight, Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2300	29⅝"	22"	21"	118	$157.05	$141.35	$125.65
60-2301	40⅛"	22"	31½"	156	194.35	174.90	155.50
60-2302	50⅝"	22"	42"	173	215.80	194.20	172.65
60-2303	61⅛"	22"	52½"	197	239.75	215.80	191.80
60-2304	69⅞"	22"	61¼"	220	265.55	239.00	212.45
60-2305	78⅝"	22"	70"	235	295.95	266.35	236.75
60-2306	87⅜"	22"	78¾"	265	323.10	290.80	258.50
60-2307	29⅝"	25½"	21"	156	185.45	166.90	148.35
60-2308	40⅛"	25½"	31½"	176	215.45	193.90	172.35
60-2309	50⅝"	25½"	42"	185	239.40	215.45	191.50
60-2310	61⅛"	25½"	52½"	211	265.80	239.20	212.65
60-2311	69⅞"	25½"	61¼"	240	295.30	265.75	236.25
60-2312	78⅝"	25½"	70"	256	328.05	295.25	262.45
60-2313	87⅜"	25½"	78¾"	267	358.05	322.25	286.45

30" deep racks also available; prices on request.

COMPLETE 19" RACKS WITH LOUVERED SIDES AND DOOR

60-2700	29⅝"	22"	21"	118	$163.20	$146.90	$130.55
60-2701	40⅛"	22"	31½"	156	202.70	182.45	162.15
60-2702	50⅝"	22"	42"	173	227.10	204.40	181.70
60-2703	61⅛"	22"	52½"	197	259.50	233.55	207.60
60-2704	69⅞"	22"	61¼"	220	282.50	254.25	226.00
60-2705	78⅝"	22"	70"	235	313.65	282.30	250.90
60-2706	87⅜"	22"	78¾"	265	340.70	306.65	272.55
60-2707	29⅝"	25½"	21"	156	192.30	173.05	153.85
60-2708	40⅛"	25½"	31½"	176	232.20	209.00	185.75
60-2709	50⅝"	25½"	42"	185	258.55	232.70	206.85
60-2710	61⅛"	25½"	52½"	211	287.50	258.75	230.00
60-2711	69⅞"	25½"	61¼"	240	319.45	287.50	255.55
60-2712	78⅝"	25½"	70"	256	354.85	219.35	283.90
60-2713	87⅜"	25½"	78¾"	267	386.80	348.10	309.45



Ⓑ Plain Door

ACCESSORIES FOR UPRIGHT CABINET RACKS

ACCESSORY DOORS

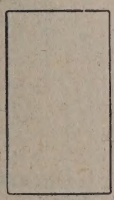
Doors are interchangeable; may be used for front or rear of rack; mount to open either left or right.

FOR 19" PANEL SPACE

Width, 18⅛".

Plain Type (Fig. B) Bud No.	Net Each, Lots of 1-2	3-4	5-7	Ht.	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type (Fig. C) Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-2340	$26.85	$24.15	$21.50	21 7/16"	21"	8	60-2540	$30.65	$27.60	$24.50
60-2341	33.10	29.80	26.50	31 15/16"	31½"	11½	60-2541	38.10	34.30	30.50
60-2342	36.70	33.05	29.35	42 7/16"	42"	15½	60-2542	42.40	38.15	33.90
60-2343	40.90	36.80	32.70	52 15/16"	52½"	19	60-2543	46.70	42.05	37.35
60-2344	45.15	40.65	36.10	61 11/16"	61¼"	22¼	60-2544	52.20	47.00	41.75
60-2345	52.80	47.50	42.25	70 7/16"	70"	25½	60-2545	58.00	52.20	46.40
60-2346	54.70	49.25	43.75	79 3/16"	78¾"	29	60-2546	63.30	56.95	50.65

Ⓒ Louvered Door



Ⓓ Plain Side

ACCESSORY SIDES

Width, 22" except 60-2567–60-2573, 25½". Sold in pairs only.

Plain Type (Fig. D) Bud No.	Net Each Pair, Lots 1-2	3-4	5-7	Ht.	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type (Fig. E) Bud No.	Net Each Pair, Lots 1-2	3-4	5-7
60-2560	$40.00	$36.00	$32.00	26 55/64"	21"	12½	60-2580	$47.20	$42.50	$37.75
60-2561	52.75	47.50	42.20	37 23/64"	31½"	17½	60-2581	62.20	56.00	49.75
60-2562	61.40	55.25	49.10	47 55/64"	42"	21	60-2582	74.10	66.70	59.30
60-2563	70.90	63.80	56.70	58 23/64"	52½"	26¼	60-2583	87.10	78.40	69.70
60-2564	78.15	70.35	62.50	67 7/64"	61¼"	30	60-2584	96.10	86.50	76.90
60-2565	86.10	77.50	68.90	75 55/64"	70"	34	60-2585	106.60	95.95	85.30
60-2566	98.70	88.85	78.95	84 39/64"	78¾"	38	60-2586	112.30	101.05	89.85
60-2567	50.35	45.30	40.30	26 55/64"	21"	14½	60-2587	55.30	49.75	44.25
60-2568	65.90	59.30	52.70	37 23/64"	31½"	20	60-2588	70.75	63.70	56.60
60-2569	76.20	68.60	60.95	47 55/64"	42"	24	60-2589	84.20	75.80	67.35
60-2570	88.50	79.65	70.80	58 23/64"	52½"	29½	60-2590	97.90	88.10	78.30
60-2571	96.90	87.20	77.50	67 7/64"	61¼"	34½	60-2591	107.10	96.40	85.70
60-2572	107.80	97.00	86.25	75 55/64"	70"	39	60-2592	117.95	106.15	94.35
60-2573	113.50	102.15	90.80	84 39/64"	78¾"	43½	60-2593	124.20	111.80	99.35

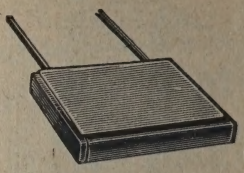
Ⓔ Louvered Side

ACCESSORIES FOR UPRIGHT CABINET RACKS (CONT'D)

ACCESSORY PERFORATED TOP

Width, 21 5/16".

Bud No.	For Panel Space	Depth	Fits Upright Rack	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2370	19"	17"	With overall depth of 22"	6	$11.00	$ 9.90	$8.80
60-2371	19"	20½"	With overall depth of 25½"	7	11.55	10.40	9.25



F Desk Top

SERIES SIXTY DESK TOP (FIG. F)

May be used in connection with any Series Sixty enclosure. Furnished completely assembled with antique white Formica* surface. Fastens to panel mounting rails by two pre-drilled channels. Will support in excess of 200 lbs. Surface 24 1/16" wide, 19½" deep, 3 1/16" high. Available in three colors. **Specify Color:** Add suffix **GG** for gray; **BB** for blue; **HG** for gray hammertone.

Bud No.	Fits Series Sixty	Support Channel	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2360	With 22" depth	21 3/32" long	20¼	$58.10	$52.30	$46.50
60-2362	With 25½" depth	24 25/32" long	24¾	59.85	53.85	47.90

*Registered Synthane Corp. trademark.

INCLINED PANEL CABINET RACKS (FIG. G)

Completely assembled with sides, rear door and solid top. Available in two combinations of plain or louvered sides and rear door. **Specify Color When Ordering:** Add suffix **GGY** to number for gray; **BBY** for blue.

COMPLETE 19" RACKS WITH PLAIN SIDES AND DOOR

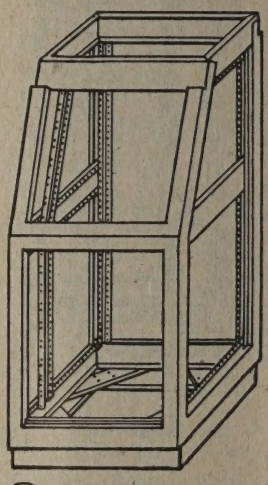
Size, 50 5/8" h. x 24 1/16" w. x 22" d., outside; 20½" d., clear inside. Weight, 165 lbs.

Bud No.	Incline Panel Height	Vertical Panel Height	Top Opening, W. x D.	Net Each, Lots of 1-2	3-4	5-7
60-2330	10½"	29¾"	18 5/16" x 11 53/64"	$235.50	$211.95	$188.40
60-2331	15¾"	24½"	18 5/16" x 10 1/32"	249.50	224.55	199.60
60-2332	17½"	22¾"	18 5/16" x 9 27/64"	249.50	224.55	199.60

30" deep racks also available; prices on request.

COMPLETE 19" RACKS WITH LOUVERED SIDES AND DOOR

Bud No.	Incline Panel Height	Vertical Panel Height	Top Opening, W. x D.	Net Each, Lots of 1-2	3-4	5-7
60-2730	10½"	29¾"	18 5/16" x 11 53/64"	$252.90	$227.60	$202.30
60-2731	15¾"	24½"	18 5/16" x 10 1/32"	267.75	241.00	214.20
60-2732	17½"	22¾"	18 5/16" x 9 27/64"	267.75	241.00	214.20



G Inclined Panel Rack

ACCESSORIES FOR INCLINED PANEL CABINET RACKS

ACCESSORY FRONT DOORS FOR 19" PANEL SPACE

Width, 18 15/16".

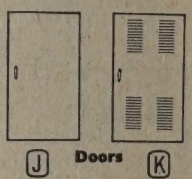
Plain Type (Fig. J) Bud No.	Net Each, Lots of 1-2	3-4	5-7	Height	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. K) Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-2350	$33.25	$29.95	$26.60	30 3/16"	18 5/16 x 11 53/64	11	60-2550	$38.25	$34.45	$30.60
60-2351	30.90	27.80	24.70	24 15/16"	18 5/16 x 10 1/32	9½	60-2551	35.80	32.20	28.65
60-2352	30.20	27.20	25.15	23 3/16"	18 5/16 x 9 27/64	9	60-2552	34.60	31.15	27.70

H Side Panels I

ACCESSORY REAR DOORS FOR 19" PANEL SPACE

Size, 18 15/16" w. x 42 7/16" h.

Plain Type (Fig. J) Bud No.	Net Each, Lots of 1-2	3-4	5-7	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. K) Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-2342	$36.70	$33.05	$29.35	All sizes	15½	60-2542	$42.40	$38.15	$33.90

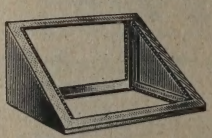


J Doors K

ACCESSORY SIDES

Specify "L" for left side or "R" for right side, determined when facing front of rack. Size, 22" w. x 47 55/64" h. Sold in pairs only.

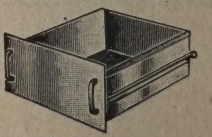
Plain Type (Fig. H) Bud No.	Net Each Pair, Lots 1-2	3-4	5-7	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. I) Bud No.	Net Each Pair, Lots 1-2	3-4	5-7
60-2574	$63.70	$57.35	$50.95	18 5/16 x 11 53/64	11	60-2594	$70.40	$63.35	$56.30
60-2575	65.55	59.00	52.45	18 5/16 x 10 1/32	9½	60-2595	72.60	65.35	58.10
60-2576	66.25	59.65	53.00	18 5/16 x 9 27/64	9	60-2596	73.50	66.15	58.80



L Turret

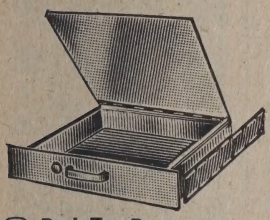
ACCESSORY PERFORATED TOPS FOR 19" PANEL SPACE

Bud No.	Width	Depth	Fits Rack Top Size, In.	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2372	21 5/16"	11 3/16"	18 5/16 x 11 53/64	3½	$8.45	$7.60	$6.75
60-2373	21 5/16"	10"	18 5/16 x 10 1/32	3½	8.20	7.40	6.55
60-2374	21 5/16"	9 13/32"	18 5/16 x 9 27/64	3¼	8.20	7.40	6.55



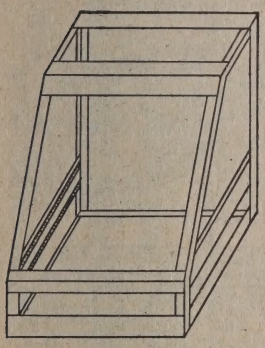
M Drawer

(N) Sliding Desk Top

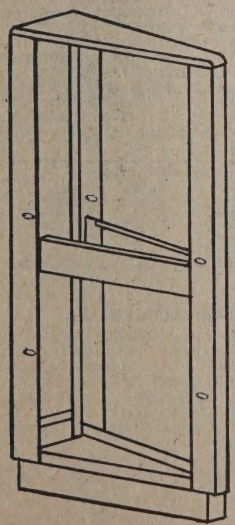


(O) Desk Top Drawer

(P) Shelf



Convertible (Q)



(R) 15° Wedge

ADD-A-RACK SERIES

Each assembly consists of frame, top, bottom, rear door and cowlings; used as an add-on unit to join any of the Series Sixty enclosures into a bank of two or more. One standard rack plus several Add-A-Racks make any desired number of racks combined for optimum width. Colors same as Inclined Racks.

FOR 19" PANEL SPACE

Plain Door					Louvered Door				
Bud No.	For Add-on to Rack No.	Net Each, Lots of 1-2	3-4	5-7	Bud No.	For Add-on to Rack No.	Net Each, Lots of 1-2	3-4	5-7
60-2500	60-2300	$133.60	$120.25	$106.90	60-2900	60-2700	$132.15	$118.95	$105.70
60-2501	60-2301	156.55	140.90	125.25	60-2901	60-2701	161.00	144.90	128.80
60-2502	60-2302	171.55	154.40	137.25	60-2902	60-2702	176.35	158.70	141.10
60-2503	60-2303	187.10	168.40	149.70	60-2903	60-2703	192.70	173.45	154.15
60-2504	60-2304	209.25	188.35	167.40	60-2904	60-2704	215.15	193.65	172.10
60-2505	60-2305	233.15	209.85	186.50	60-2905	60-2705	239.80	215.80	191.85
60-2506	60-2306	250.45	225.40	200.35	60-2906	60-2706	257.50	231.75	206.00
60-2507	60-2307	149.50	134.55	119.60	60-2907	60-2707	151.90	136.70	121.50
60-2508	60-2308	175.15	157.65	140.10	60-2908	60-2708	177.80	160.00	142.25
60-2509	60-2309	191.30	172.15	153.05	60-2909	60-2709	196.10	176.50	156.90
60-2510	60-2310	208.90	188.00	167.10	60-2910	60-2710	214.10	192.70	171.30
60-2511	60-2311	233.50	210.15	186.80	60-2911	60-2711	239.25	215.35	191.40
60-2512	60-2312	260.05	234.05	208.05	60-2912	60-2712	266.80	240.10	213.45
60-2513	60-2313	287.85	259.05	230.30	60-2913	60-2713	294.95	265.45	235.95
60-2530	60-2330	199.30	179.35	159.45	60-2930	60-2730	201.60	181.45	161.30
60-2531	60-2331	212.45	191.20	169.95	60-2931	60-2731	217.70	195.95	174.15
60-2532	60-2332	212.45	191.20	169.95	60-2932	60-2732	217.70	195.95	174.15

SERIES SIXTY TURRETS (FIG. L)

Made of 16 gauge steel; designed so that any one of three sides may be attached to a Series Sixty upright rack or any horizontal surface. Accommodate standard 19" panels. All mounting rails have universal spacing. Sides easily removed when a series of interconnecting turrets are desired. **Specify Color When Ordering:** Add suffix **GG** for dark gray; **BB** for dark blue; **HG** for gray hammertone. Order standard Bud panels with suffix **GY** for light gray; **BY** for light blue; **HG** for gray hammertone.

Bud No.	Width	Depth	Height	Panel Space Sloping	Bottom	Rear	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2364	22 1/16"	17 7/8"	12 5/16"	17 1/2"	14"	8 3/4"	17	$57.05	$51.35	$45.65
60-2365	22 1/16"	14 3/8"	10 3/16"	12 1/4"	10 1/2"	7"	14	47.60	42.85	38.10
60-2366	22 1/16"	20 13/16"	14 3/8"	21"	17 1/2"	10 1/2"	20	60.00	54.00	48.00

SERIES SIXTY DRAWER, DESK TOP, AND SHELF ACCESSORIES

No. 60-2368 Drawer: Fits into any Series Sixty cabinet rack. Slides easily on nylon rollers. Will support heavy loads. Extends to full depth; stops prevent drawer from falling out. Slides easily attach to panel supporting rails. Silver anodized handles. Shipped completely assembled. **No. 60-2361 Sliding Desk Top:** Fits all Series Sixty racks. Has smooth Formica* surface for writing, servicing or inspection. Fits flush with front of unit. Usable area when fully extended, 11" x 17 5/8". Occupies only 1 3/4" of panel height. Will support 50 lbs. Ball-bearing slide mechanism mounts directly in Series Sixty racks; brackets included to fit other Bud cabinets and consoles. **No. 60-2363 Desk Top Drawer:** Fits Series Sixty racks. Has Formica surface. Fits flush with front of unit. Hinged desk top on drawer holds small tools or parts. Special front-panel latch both locks and releases drawer or top as desired. Mounts to cabinet U-braces; slides travel on nylon rollers. Hardware supplied. **No. 60-2380 and 60-2381 Shelves:** Ideal for support of chassis, power supplies or other equipment; also may be used as base plate for bottom support. Of one-piece 16 gauge steel with flanged front and rear for extra strength and rigidity. Easily bolted to cabinet U-braces. Will support 200 lbs. Hardware supplied.

Bud No.	Fig.	Size, Inches	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2368†	M	16 19/32 x 6 1/32 x 19 13/64 inside	28	$72.45	$65.20	$57.95
60-2361†	N	17 5/8 x 15 1/8 x 1 3/4 with std. 19" panel	9 1/4	32.10	28.90	25.70
60-2363†	O	16 9/16 x 2 31/32 x 14 7/8 inside; 19 x 3 1/2 front panel	19	89.35	80.40	71.50
60-2380‡	P	17 23/32 w. x 19 9/32" d.	8 1/4	11.05	9.90	8.85
60-2381‡	P	17 23/32 w. x 22 3/4 d.	8 1/2	11.55	10.40	9.25

*Synthane Corp. trademark. †Add suffix **GY** for light textured gray; **BY** for light textured blue; **WH** for white; **S** for sand; **HG** for gray hammertone. ‡Add suffix **GG** for dark textured gray; **BB** for dark textured blue; **WH** for white; **S** for sand; **HG** for gray hammertone.

SERIES SIXTY CONVERTIBLES (FIG. Q)

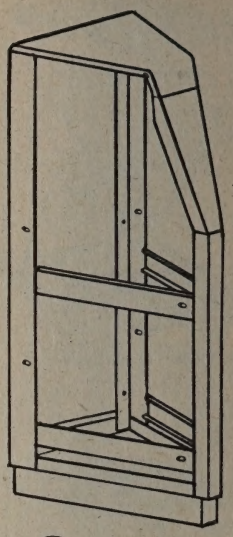
Affords optimum viewing angle when placed on a table or bench, or perched on top of a Series Sixty inclined panel cabinet rack. Max. access to the interior for installation of components or service is assured through sides, top, rear, bottom and front. Accepts standard 19" panels in vertical and inclined panel spaces. Units assembled with lever type door handle, welded frame work, solid top, plain or louvered sides and/or rear door. Width, 24 1/16"; outside depth, 22"; clear inside depth, 20 1/2"; vertical panel space, 3 1/2"; all units. Available with dark gray body and light gray door or dark blue body and light blue door; **Specify Color When Ordering.**

Plain Sides and Door				Inclined Panel Height	Louvered Sides and Plain Door			
Bud No.	Net Each, Lots of 1-2	3-4	5-7		Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-4600*	$232.30	$209.05	$185.85	10 1/2"	60-4700*	$292.00	$262.80	$233.60
60-4601†	235.00	211.50	188.00	15 3/4"	60-4701†	246.20	221.60	196.95
60-4602‡	237.85	214.05	190.30	17 1/2"	60-4702‡	248.90	224.00	199.10
Louvered Sides and Door					Plain Sides, Louvered Door			
60-4900*	$244.15	$219.75	$195.30	10 1/2"	60-4800*	$237.85	$214.05	$190.30
60-4901†	247.20	222.50	197.75	15 3/4"	60-4801†	290.60	261.55	232.50
60-4902‡	251.00	225.90	200.80	17 1/2"	60-4802‡	243.40	219.05	194.70

*Height, 22 25/32"; top opening, 18 5/16" w. x 11 53/64" d. †Height, 27 23/32"; top opening, 18 5/16" w. x 10 1/32" d. ‡Height, 29 23/64"; top opening, 18 5/16" w. x 9 27/64" d.

SERIES SIXTY WEDGES

Helps in joining any number of Series Sixty upright or inclined panel units together to conform to any configuration or space requirement. These are quickly attached to the adjacent frame work by means of simple fasteners. Width, 7 3/16" (60-8300–60-8306); 8 3/32" (60-8307–60-8313); 18 3/32" (60-8400–60-8406); 20 61/64" (60-8407–60-8413). Available with dark gray frame and light gray panel or dark blue frame and light blue panel. **Specify Color When Ordering.**



S 45° Wedge

FOR UPRIGHT RACKS

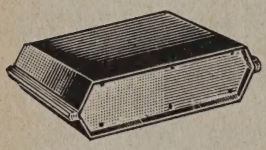
15° WEDGES (Fig. R)				For Cabs. With		45° WEDGES (Fig. S)			
Bud No.	Net Each, Lots of 1-2	3-4	5-7	Panel Ht.	Outside Depth	Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-8300	$ 98.00	$ 88.20	$ 78.40	21"	22"	60-8400	$107.15	$ 96.45	$ 85.70
60-8301	115.70	104.15	92.55	31½"	22"	60-8401	124.05	111.65	99.25
60-8302	126.70	114.05	101.35	42"	22"	60-8402	135.15	121.65	108.10
60-8303	139.80	125.80	111.85	52½"	22"	60-8403	146.35	131.70	117.10
60-8304	156.80	141.10	125.45	61¼"	22"	60-8404	165.85	149.25	132.70
60-8305	172.40	155.15	137.90	70"	22"	60-8405	181.50	163.35	145.20
60-8306	188.05	169.25	150.45	78¾"	22"	60-8406	196.50	176.85	157.20
60-8307	111.10	100.00	88.90	21"	25½"	60-8407	117.45	105.70	93.95
60-8308	128.70	115.85	102.95	31½"	25½"	60-8408	137.15	123.45	109.70
60-8309	143.70	129.35	114.95	42"	25½"	60-8409	152.85	137.55	122.30
60-8310	156.80	141.10	125.45	52½"	25½"	60-8410	165.85	149.25	132.70
60-8311	175.05	157.55	140.05	61¼"	25½"	60-8411	183.55	165.20	146.85
60-8312	196.50	176.85	157.20	70"	25½"	60-8412	205.15	184.65	164.10
60-8313	218.10	196.30	174.50	78¾"	25½"	60-8413	227.25	204.55	181.80

FOR INCLINED PANEL RACKS

Width, 7 3/16" (15° wedges); 18 3/32" (45° wedges).

15° WEDGES (Fig. R)				For Vert. Panel Height	45° WEDGES (Fig. S)			
Bud No.	Net Each, Lots of 1-2	3-4	5-7		Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-8330	$150.20	$135.20	$120.15	29¾"	60-8430	$157.40	$141.65	$125.90
60-8331	159.35	143.40	127.50	24½"	60-8431	168.50	151.65	134.80
60-8332	159.35	143.40	127.50	22¾"	60-8432	168.50	151.65	134.80

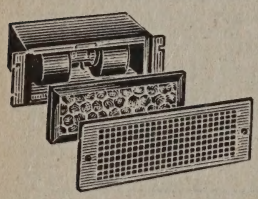
GRAND PRIX CABINETS



Excellent for audio equipment or wherever appearance is important. Match any decor. Upper and lower segments held together by aluminum extrusions. Body and panels of 20 gauge steel. Four rubber feet. Specify color by suffix: **GGY,** textured dark gray with light panel; **HG,** gray hammertone.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-49
MD-1	4⅛ x 19¼ x 10½	7¼	$27.45	$24.70	$21.95
MD-2	7⅛ x 19¼ x 10½	7¾	28.65	25.80	22.90
MD-3	4⅛ x 12¼ x 8¾	7	22.15	19.95	17.70

TRANS-AIRE BLOWER



Ideal for use where excessive heat is generated by equipment in an enclosed rack, cabinet or console. Brings in fresh air or exhausts heated air, enabling use as an exhaust or intake blower, depending upon mounting position. Unit will operate in any position—vertical or horizontal. May be mounted to rails of standard cabinet or rack. Use of Bud Chassis Supporting Angles SA-1349, SA-1350 or CE-2219 is recommended when blower is mounted in rack or cabinet. Motor is rubber mounted. Thermal overload protection to prevent overheating. Automatic reset. Oil impregnated, disposable fiberglass filter can be changed without removing unit from cabinet. Air displacement shown is at 0° static pressure. Double shielded, permanently lubricated ball bearings. B-50, B-52 and B-54 are short-depth models with single speed; others, dual speed. Complete with filter, nickel-plated grille and 24" three-wire cord. Light gray enamel finish.

Bud No.	Size† D. x H.	Air c.f.m. High	Low	Motor Watts	rpm	Filters Bud No.
B-23A	12" x 3½"	180	130	125/100	1450/1250	BF-24
B-25A	14½" x 5¼"	350	160	375/200	1420/1075	BF-26
B-27A	14½" x 7"	515	280	550/350	1350/1150	BF-28
B-50*	6 3/32" x 3½"	150	.....	80	3150	BF-24
B-52*	9½" x 5¼"	150	.....	80	3000	BF-53
B-54*	10 3/16" x 7"	300	.....	60	1550	BF-55

*Brings in fresh air only. †All for standard 19" rack.

TRANS-AIRE BLOWER AND FILTER PRICING

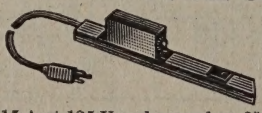
Bud No.	Net Each, Lots of 1-9	10-14	15-19	Bud No.	Net Each, Lots of 1-24	25-49	50-99
B-23A	113.05	$101.75	$ 90.45	BF-24	$2.15	$1.95	$1.70
B-25A	129.10	116.20	103.30	BF-26	2.35	2.10	1.90
B-27A	145.00	130.50	116.00	BF-28	2.70	2.45	2.15
B-50	109.25	98.35	87.40	BF-53	2.35	2.10	1.90
B-52	113.50	102.15	90.80	BF-55	2.55	2.30	2.05
B-54	145.40	130.85	116.30				

PORTACAB INSTRUMENT CABINETS

Attractive, versatile cabinets desirable as housings for instrumentation requiring highly stylized appearance. Custom. quality look achieved in standard production models. Made entirely of aluminum to minimize weight. Flexible recessed handle permits easy portability as well as vertical stacking. Well louvered for adequate ventilation. Louvers point inward, permitting side-to-side placement of cabinets without space loss. Aluminum front panel recessed ½". Welded back has opening. Perimeter of panel follows contour of body. Has four detachable rubber feet. Gray hammertone finish only.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Bud Chassis	Net Each, Lots of 1-24	25-49	50-99
WA1540	6⅛ x 8 x 8	2	AC-402	$15.70	$14.15	$12.55
WA1541	8⅛ x 12 x 9	3½	AC-407	20.45	18.40	16.35
WA1542	10⅛ x 8 x 8	3¾	AC-406	18.25	16.45	14.60
WA1543	11⅛ x 18 x 11	5½	AC-416	25.30	22.75	20.25
WA1544	14⅛ x 18 x 12	8	AC-420	29.05	26.15	23.25

POWER OUTLET STRIPS



For racks or cabinets with a number of instruments requiring individual power sources. Steel raceways protect cords from damage. Mount vertically or horizontally; snap into clips in housing. Grounding-type receptacles rated 15 A at 125 V and spaced on 6" centers except POS-4, designed for horizontal mounting. With pushbutton-reset overload breaker, 6-ft. cord and grounding plug. UL Recognized components. Light gray enamel finish.

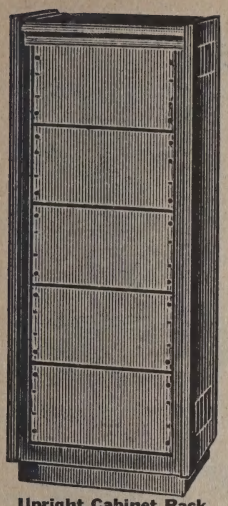
Bud No.	No. of Outlets	Length, Inches	Net Each, Lots of 1-5	6-11	12-17
POS-4	4	17½	$35.55	$32.00	$28.45
POS-7	7	48	37.45	33.70	29.95
POS-9	9	60	41.15	37.05	32.90
POS-11	11	72	44.85	40.35	35.90

"TEM-STAT" TEMPERATURE CONTROLS

Prevents costly damage to electronic components in enclosed cabinets, boxes, etc. Bimetal sensing element responds quickly to gradual or sudden temperature changes and actuates whatever warning device you use: Activates a light, bell, blower or other device; or, shuts off current. Activates snap-action, heavy duty, normally open switch contacts. High electrical ratings up to 300° F; fully adjustable temperature ranges. Screw terminals for easy attachment. UL Recognized. Small size, 2 15/16" lg. x 1" w. x 1 1/32" d., suitable for limited space applications. **UL Rating:** 8 amps, full load, 115 VAC (48 amps, locked rotor). 100,000 cycles motor rating; derate 50% for 230 VAC. Full load 13.8 amps 120 VAC (82.8 amps, locked rotor). 6,000 cycles motor rating; derate 50% for 240 VAC. Pilot duty, 125 VA at 115/230 VAC; or, 250 mV or more.

Bud No. TS-15—80°–170° F. Net Each, Lots of 1–9 ..... **$8.30**
Net Each, Lots of: 10–14 ..... **$7.45**; 15–19 ..... **6.65**

Series 2000 Cabinet Racks



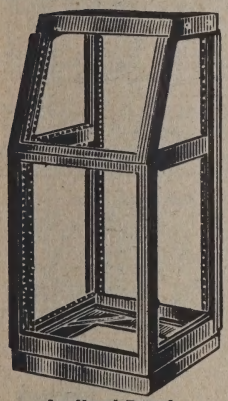
Upright Cabinet Rack

SERIES 2000 UPRIGHT CABINET RACKS

Modern rack enclosures combine the dramatic appearance of sheer, square lines with rugged Bud construction. Basic frame is all-welded with 14 gauge steel members; 18 gauge steel door, sides and top. "U" braces welded to sides of frame augment its strength and rigidity and act as a mounting for the vertical rails, which can be horizontally adjusted. Front panel mounting rails are tapped 10-32; rear rails are pierced 9/32" dia. Caster bracket in base accepts Bud RC-7758 casters. All cabinets accept standard 19" panels. Shipped completely assembled. Width, 24 3/16". Available in royal blue or gray textured enamel with clear anodized aluminum cowl, or gold textured enamel with gold anodized aluminum cowl. **Specify Color When Ordering.** **30" deep racks also available; prices on request.**

23 7/8" OUTSIDE DEPTH—20 1/2" CLEAR INSIDE DEPTH

With Plain Sides and Door				Size, Inches		Wt., Lbs.	With Louvered Sides and Door			
Bud No.	Net Each, Lots of 1-2	3-4	5-7	Ht.	Panel Space		Bud No.	Net Each, Lots of 1-2	3-4	5-7
E-2000	$169.55	$152.60	$135.65	30 1/4	21	125	E-2016	$181.75	$163.60	$145.40
E-2001	209.70	188.75	167.75	40 3/4	31 1/2	150	E-2017	218.70	196.85	174.95
E-2002	221.35	199.20	177.10	44 1/4	35	155	E-2018	231.85	208.65	185.50
E-2003	233.00	209.70	186.40	51 1/4	42	167	E-2019	245.15	220.65	196.10
E-2004	259.20	233.30	207.35	61 3/4	52 1/2	205	E-2020	280.15	252.15	224.10
E-2005	287.55	258.80	230.05	70 1/2	61 1/4	219	E-2021	304.95	274.45	243.95
E-2006	319.45	287.50	255.55	79 1/4	70	240	E-2022	338.65	304.80	270.90
E-2007	348.80	313.90	279.05	88	78 3/4	262	E-2023	367.80	331.00	294.25
27 3/8" OUTSIDE DEPTH—24" CLEAR INSIDE DEPTH										
E-2008	$200.30	$180.25	$160.25	30 1/4	21	135	E-2024	$207.55	$186.80	$166.05
E-2009	232.55	209.30	186.05	40 3/4	31 1/2	160	E-2025	250.70	225.65	200.55
E-2010	245.50	220.95	196.40	44 1/4	35	165	E-2026	265.05	238.55	212.05
E-2011	258.50	232.65	206.80	51 1/4	42	187	E-2027	279.25	251.35	223.40
E-2012	286.80	258.10	229.45	61 3/4	52 1/2	222	E-2028	310.35	279.30	248.30
E-2013	318.80	286.90	255.05	70 1/2	61 1/4	235	E-2029	344.95	310.45	275.95
E-2014	354.15	318.75	283.30	79 1/4	70	265	E-2030	383.05	344.75	306.45
E-2015	386.55	347.90	309.25	88	78 3/4	280	E-2031	417.45	375.70	333.95



Inclined Panel Cabinet Rack

SERIES 2000 INCLINED PANEL CABINET RACKS

Same modern styling and rugged construction as upright racks above, with 20° inclined panel for comfortable viewing of mounted instruments. Panel mounting rails in front vertical and inclined panel sections, as well as in the rear, are adjustable front-to-rear. Height, 51 1/4"; width, 24 3/16"; outside depth, 23 7/8"; clear inside depth, 20 1/2". Weight, 173 lbs. Available in same textured finishes as above. **Specify Color When Ordering.** **30" deep racks also available; prices on request.**

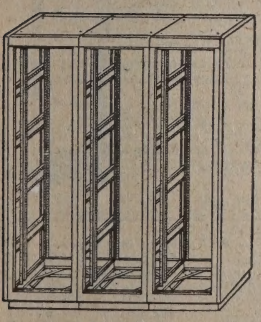
With Plain Sides and Door				Inclined Panel Space	Vertical Panel Space	With Louvered Sides and Door			
Bud No.	Net Each, Lots of 1-2	3-4	5-7			Bud No.	Net Each, Lots of 1-2	3-4	5-7
SE-2064	$230.95	$207.85	$184.75	10 1/2"	29 3/4"	SE-2067	$248.15	$223.35	$198.50
SE-2065	244.80	220.30	195.85	15 3/4"	24 1/4"	SE-2068	262.70	236.45	210.15
SE-2066	244.80	220.30	195.85	17 1/2"	22 3/4"	SE-2069	262.70	236.45	210.15

ADD-A-RACKS AND ACCESSORIES FOR SERIES 2000

ADD-A-RACK SERIES FOR UPRIGHT CABINETS

Used as an add-on unit to join Series 2000 upright racks into a bank of two or more. Each assembly consists of a frame, top, bottom, rear door and cowlings. One standard rack must be used, plus any number of Add-A-Rack units. **Specify Color When Ordering;** same as above racks.

With Plain Door					With Louvered Door					
Bud No.	For Add-on to Rack	Net Each, Lots of 1-2	3-4	5-7	Bud No.	For Add-on to Rack	Net Each, Lots of 1-2	3-4	5-7	Wt., Lbs.
AE-2032	E-2000	$144.30	$129.85	$115.45	AE-2048	E-2016	$150.00	$135.00	$120.00	90
AE-2033	E-2001	169.05	152.15	135.25	AE-2049	E-2017	173.80	156.40	139.05	110
AE-2034	E-2002	177.00	159.30	141.60	AE-2050	E-2018	182.10	163.90	145.70	113
AE-2035	E-2003	185.25	166.75	148.20	AE-2051	E-2019	190.35	171.30	152.30	115
AE-2036	E-2004	202.35	182.10	161.90	AE-2052	E-2020	208.00	187.20	166.40	145
AE-2037	E-2005	225.90	203.30	180.70	AE-2053	E-2021	232.30	209.05	185.85	148
AE-2038	E-2006	237.10	213.40	189.70	AE-2054	E-2022	258.30	232.45	206.65	152
AE-2039	E-2007	270.35	243.30	216.30	AE-2055	E-2023	277.90	250.10	222.30	158
AE-2040	E-2008	161.35	145.20	129.10	AE-2056	E-2024	163.45	147.10	130.75	120
AE-2041	E-2009	189.00	170.10	151.20	AE-2057	E-2025	192.00	172.80	153.60	130
AE-2042	E-2010	197.90	178.10	158.30	AE-2058	E-2026	201.85	181.65	161.50	135
AE-2043	E-2011	204.65	184.20	163.70	AE-2059	E-2027	211.75	190.60	169.40	138
AE-2044	E-2012	225.45	202.90	180.35	AE-2060	E-2028	231.15	208.05	184.90	142
AE-2045	E-2013	252.05	226.85	201.65	AE-2061	E-2029	258.30	232.45	206.65	164
AE-2046	E-2014	280.65	252.60	224.50	AE-2062	E-2030	288.00	259.20	230.40	168
AE-2047	E-2015	310.60	279.55	248.50	AE-2063	E-2031	318.35	286.50	254.70	172



Add-A-Rack

ADD-A-RACK SERIES FOR INCLINED PANEL CABINETS

ASE-2084	SE-2064	$195.55	$176.00	$156.45	ASE-2087	SE-2067	$197.80	$178.00	$158.25	115
ASE-2085	SE-2065	208.50	187.65	166.80	ASE-2088	SE-2068	213.65	192.30	170.90	115
ASE-2086	SE-2066	208.50	187.65	166.80	ASE-2089	SE-2069	213.65	192.30	170.90	120

ACCESSORY FRONT DOORS FOR UPRIGHT CABINETS

Plain Type				For Vertical Panel Space of	Wt., Lbs.	Louvered Type			
Bud No.	Net Each, Lots of 1-2	3-4	5-7			Bud No.	Net Each, Lots of 1-2	3-4	5-7
E-9000	$25.30	$22.75	$20.25	21"	15	E-9020	$29.05	$26.15	$23.25
E-9001	31.30	28.15	25.05	31 1/2"	18	E-9021	36.05	32.45	28.85
E-9002	33.00	29.70	26.40	35"	19	E-9022	38.00	34.20	30.40
E-9003	34.75	31.30	27.80	42"	23	E-9023	40.00	36.00	32.00
E-9004	38.75	34.90	31.00	52 1/2"	27	E-9024	44.20	39.80	35.35
E-9005	42.70	38.45	34.15	61 1/4"	29	E-9025	49.40	44.45	39.50
E-9006	49.95	44.95	39.95	70"	31	E-9026	54.80	49.30	43.85
E-9007	51.80	46.60	41.45	78 3/4"	33	E-9027	59.95	53.95	47.95

ACCESSORY FRONT DOORS FOR INCLINED PANEL CABINETS

E-9008	$31.40	$28.25	$25.10	29 3/4"	11	E-9028	$36.10	$32.50	$28.90
E-9009	29.20	26.30	23.35	24 1/2"	10 1/2	E-9029	33.85	30.45	27.10
E-9010	28.70	25.85	22.95	22 3/4"	9	E-9030	32.75	29.50	26.20

Desk Top

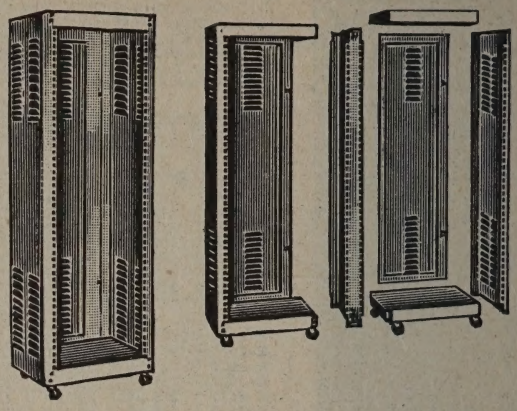
DESK TOPS FOR SERIES 2000 CABINET RACKS

Provides a smooth writing surface or shelf on upright or inclined panel cabinet rack. Two pre-slotted supporting channels bolt to panel mounting rails. Antique white Formica* surface. Supports over 200 lbs. **Size:** 24 3/16" wide, 19 1/2" deep, 3 1/16" high. Specify gray, royal blue or gold textured enamel finish.

Bud No.	Fits Cabinet with Depth of	Supporting Channel	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
DT-2960	23 7/8"	21 25/32"	29	$57.30	$51.55	$45.85
DT-2962	27 3/8"	24 25/32"	30	59.20	53.30	47.35

*Registered Synthane Corp. trademark.

DELUXE RELAY RACKS WITH ADD-A-RACK



High quality relay racks made of 16-gauge steel with 7/64" panel supports. Panel mounting supports are recessed so that no panel edges will be exposed. Both back and sides are fully louvered for best ventilation. Snap catches are positioned on the door. Rounded corners give streamlined appearance. Base constructed with four special supports so that casters may be applied to base directly for mobility. Racks are 22" wide to accept all standard 19" panels.

Super Deluxe 2-Door Series Relay Racks are equipped with adjustable panel mounting supports permitting forward and backward adjustment of panels for more efficient use of space. Adjustable points are at 1" intervals for 9" to 15" clearance behind panels. Super Deluxe 2-Door Racks are fitted with both front and rear doors, the rear to cover any equipment behind the panel while making it easily accessible. The front door, not louvered, conceals controls on the front panel.

Add-A-Rack Series—Where relay racks are to be joined in series. Provides additional strength and improved appearance. Includes door, top, bottom and coupling unit, all that is needed to make a double relay rack out of a single Deluxe series.

All Racks Listed are shipped knocked-down with all necessary hardware and assembly instructions. Casters optional. When ordering specify finish. Add suffix **"HG"** for gray hammertone; suffix **"GR"** for gray rinkletex; suffix **"BR"** for black rinkletex.

SUPER DELUXE TWO-DOOR RACKS WITH 19" WIDE PANEL SPACE

Bud No.	Size, Inches: Height, Overall	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-9	10-14	15-19
CR-2174	42 1/16	36 3/4	102	$116.00	$104.40	$ 92.80
CR-2171	47 5/16	42	104	125.25	112.75	100.20
CR-2172	66 5/16	61 1/4	138	161.70	145.55	129.35
CR-2175	75 5/16	70	150	173.80	156.40	139.05
CR-2173	82 5/16	77	163	194.05	174.65	155.25

ADD-A-RACK ASSEMBLIES

Includes door, top, bottom and coupling unit for add-on use with racks indicated.

Bud No.	For Use With Rack No.	Wt., Lbs.	Net Each, Lots of: 1-9	10-14	15-19
AR-1778	CR-1774	70	$ 89.80	$ 80.80	$ 71.85
AR-1775	CR-1771	74	95.55	86.00	76.45
AR-1776	CR-1772	100	118.75	106.90	95.00
AR-1779	CR-1780	107	125.50	112.95	100.40
AR-1777	CR-1773	113	145.90	131.30	116.70
AR-2278	CR-2074	86	99.90	89.90	79.90
AR-2275	CR-2071	102	112.80	101.50	90.25
AR-2276	CR-2072	110	141.30	127.15	113.05
AR-2279	CR-2075	120	144.15	129.75	115.30
AR-2277	CR-2073	130	171.95	154.75	137.55

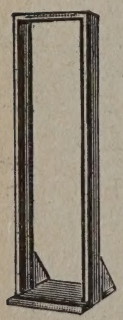
DELUXE RELAY RACKS WITH 19" WIDE PANEL SPACE 17 1/8" Overall Depth

Bud No.	Size, Inches: Height, Overall	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-9	10-14	15-19
CR-1774	42 1/16	36 3/4	82	$ 91.50	$ 82.40	$ 73.25
CR-1771	47 5/16	42	92	103.50	93.15	82.80
CR-1772	66 5/16	61 1/4	115	129.55	116.60	103.65
CR-1780	75 5/16	70	125	132.95	119.65	106.35
CR-1773	82 5/16	77	135	149.20	134.30	119.35

EXTRA DEEP DELUXE RACKS WITH 19" WIDE PANEL SPACE

Same as above, except 22 1/8" deep instead of 17 1/8" deep.

Bud No.	Size, Inches: Height, Overall	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-9	10-14	15-19
CR-2074	42 1/16	36 3/4	98	$109.85	$ 98.85	$ 87.90
CR-2071	47 5/16	42	102	128.40	115.55	102.70
CR-2072	66 5/16	61 1/4	137	155.65	140.10	124.50
CR-2075	75 5/16	70	148	158.55	142.70	126.85
CR-2073	82 5/16	77	159	184.70	166.25	147.75



DELUXE TELEPHONE-TYPE RELAY RACKS

Sturdy open rack with extra strength and greater capacity. Upright U-member is unitize-welded with ventilation provided at top. Two panel-mounting rails, at front and rear, tapped 10-32 with W.E. spacing. Made of 12 ga. steel throughout. Chassis-type base drilled for RC-7756 casters. Triangular brackets hold uprights to base; holes provided on both sides for bolting racks together in "Add-A-Rack" manner. Add suffix **HG** for gray hammertone finish; **BR** for black rinkletex; **GY** for gray rinkletex. Racks have 20 7/8" base width and take 19" wide panels.

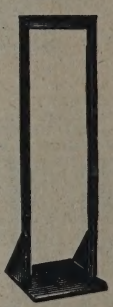
Bud No.	Size, Inches: Height, Overall	Size, Inches: Panel Space	Net Each, Lots of: 1-9	10-14	15-19
RR-1367	64 3/8	61 1/4	$ 84.35	$75.90	$67.50
RR-1368	73 3/8	70	90.75	81.70	72.60
RR-1369	80 3/8	77	100.90	90.80	80.70

RACK SHELVES

Heavy gauge steel shelves with 1" flange for rigidity and strength. Mount on chassis supporting angles in rack to hold power supplies, modulators, etc. Width 19". Black enamel finish.

Bud No.	Depth, Inches	Weight, Lbs.	Net Each, Lots of: 1-24	25-49	50-99
CB-1976	15	6	$6.50	$5.85	$5.20
CB-1977	12	5	5.15	4.65	4.10

TELEPHONE-TYPE RELAY RACKS



Heavy Duty Model RR-1265: Two 3 1/2" x 5" x 1/4", 20 3/8" long angles form base. Steel channels are 3" x 1 3/8", 71 29/32" long. Cross bars are 1/8" x 2 3/32" angles. Panel holes tapped 12-24 with W.E. space. Black rinkletex finish only. Usually bolted to floor. **Standard Models:** 3" channels and crossbars of 7/64" steel. Base has chassis type bottom with side angles. Base drilled for RC-7756 casters. Suffix **BR**, black rinkletex; **HG**, gray hammertone.

FOR 19" WIDE PANELS

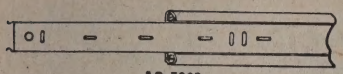
Bud No.	Size, Inches: Height, Overall	Size, Inches: Panel Space	Net Each, Lots of: 1-9	10-14	15-19
RR-1263	35 33/64	31 1/2	$ 41.30	$37.15	$33.05
RR-1363	40 53/64	36 3/4	39.80	35.80	31.85
RR-1264	70 33/64	66 1/2	47.30	42.55	37.85
RR-1364	75 53/64	71 3/4	49.60	44.65	39.70
RR-1366	81 7/64	77	54.35	48.90	43.50
RR-1265	72 5/32	66 1/2	109.85	98.85	87.90

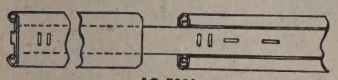
TABLE-MOUNT TELEPHONE RACK

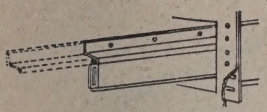
Sturdy rack with chassis type base mounts heavy components on table where enclosures are not required. Panel mount rails recessed for flush mount of 19" panels. Shipped knocked down. Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**).

Bud No.	Size, Inches: Height, Overall	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-14	15-24	25-34
RR-1248	24	21	14 1/4	$19.00	$17.10	$15.20
RR-1249	31	28	16 3/4	22.45	20.20	17.95

PRECISION SLIDING MECHANISMS


AS-5060


AS-5020


AS-5080

All steel commercial design provides a wide variety of models for a wide range of purposes. Provides smooth, light telescoping movement with unsurpassed reliability and minimal wear. **Specifications:** Slide members and component parts made from work hardened, cold rolled steel; bearings are nickel-plated carburized steel. Electrozinc plate finish; grease is high-low temperature type. **Mounting:** Units require 2 each BAS-5100 front mounting brackets and 2 each BAS-5101 rear mounting brackets per pair to attach slides to EIA rails. One each NAS-5110 rail bar nut used with each mounting bracket.

2 MEMBER, ¾ EXTENSION FRICTION DISCONNECT

Bud Number	Slide Length, Inches	Slide Travel, Inches	Load Rating, Lbs.	Net per Pair, Lots of 1-4	5-9	10-24
AS-5000	12	9	140	$13.45	$12.10	$10.75
AS-5001	16	12	120	15.65	14.10	12.50
AS-5002	20	15	92	17.00	15.30	13.60
POSITIVE STOP						
AS-5060	12	9	108	$12.35	$11.10	$ 9.90
AS-5061	16	12	95	13.30	11.95	10.65
AS-5062	20	15	82	13.95	12.55	11.15

3 MEMBER, FULL EXTENSION POSITIVE STOP

AS-5020	12	12.88	175	$31.90	$28.70	$25.50
AS-5021	16	16.88	160	35.50	31.95	28.40
AS-5022	20	20.88	142	42.25	34.45	30.65
POSITIVE W/FRONT DISCONNECT, ⅜ SIDE SPACE						
AS-5040	12	11.88	120	$38.30	$38.05	$33.80
AS-5041	16	15.88	108	45.85	41.25	36.70
AS-5042	20	19.88	92	49.00	44.10	39.20

DUAL MEMBER W/DRAWER SECTION, FULL EXTENSION AND LIFT-OFF DISCONNECT

Drawer section lengths are equal to slide lengths. Provides full extension in ⅜" side space. Equipped with stationary front, and adjustable rear mounting brackets for EIA rails. Chassis mounts to drawer section. Removable by lining up open slot in drawer section over tab in moving member and lifting off.

AS-5080	12	12	80	$38.80	$34.90	$31.05
AS-5081	16	16	70	39.70	35.75	31.75
AS-5082	20	20	60	43.65	39.30	34.90

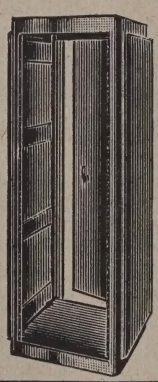
MOUNTING BRACKETS

Bud No.	Description	Net Each, Lots of 1-4	5-9	10-24	Bud No.	Description	Net Each, Lots of 1-4	5-9	10-24
BAS-5100	Front bracket	$1.75	$1.60	$1.40	BAS-5103	Rear bracket*	$1.75	$1.60	$1.40
BAS-5101	Rear bracket	1.75	1.60	1.40	NAS-5110	Bar nut	1.75	1.60	1.40
BAS-5102	Front bracket*	1.75	1.60	1.40	SB-5107	Adapter kit†	4.75	4.30	3.80

*For use with 3 member front disconnect types only. †For use with Series 2000, 60 and Classic II.

PRESTIGE BALL CORNER RACKS

Attractive, practical housing for permanent or mobile instrumentation. Standard Prestige relay rack consists of framework, top, bottom, two ball cornered sides, and a ball corner door. Sides attach to frame by means of a tongue-and-slot arrangement at bottom and two screws at top. Sides easily removable for access. Drilled and tapped panel mounting rails on all four vertical members of frame. Doors mount from either left or right side. Slotted base takes ball-cornered side panels on any of the four sides. Door and side clearance permits covering of equipment without damage to knobs or controls. Provision made for recessed casters. Extra doors available for placing on any of the sides. Knockout holes provided for attaching two or more units together. Bottom will support 500 lbs., panel rails 200 lbs. suspended vertically between rails. Units take Bud SD-1717 sliding drawer assembly or 60-2368 drawer. Shipped knocked-down, with necessary assembly hardware. **Gray hammertone finish only. Furnished with adjustable panel mounting rails.**



Bud No.	Size, Inches Overall Height	Panel Space	Net Each, Lots of 1-9	10-14	15-19
CR-2280	66⅜16	61¼	$215.75	$194.20	$172.60
CR-2281	71⅜16	66½	221.10	199.00	176.90
CR-2282	82⅝16	77	248.50	223.65	198.80

EXTRA DOORS FOR ABOVE

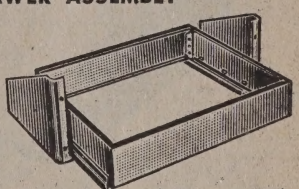
Bud No.	For Use With	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
DR-2290	Door for CR-2280	28	$24.75	$22.30	$19.80
DR-2291	Door for CR-2281	33	28.90	26.00	23.10
DR-2292	Door for CR-2282	39	32.50	29.25	26.00

PRESTIGE ADD-A-RACKS

Where relay racks are to be joined in series the Add-A-Rack assembly is lower in cost yet provides additional strength and improved appearance. Consists of top, bottom, rear door and framework. Made of 16 gauge steel. Extra ball corner doors will fit adjustable panel mounting rails which are recessed so that panel will be flush with face of rack. Add-A-Racks may be added at any time as needed. Gray hammertone finish.

Bud No.	Used to Add-A-Rack to	Net Each, Lots of 1-9	10-14	15-19
AR-2284	CR-2280	$163.20	$146.90	$130.55
AR-2286	CR-2281	176.35	158.70	141.10
AR-2287	CR-2282	198.00	178.20	158.40

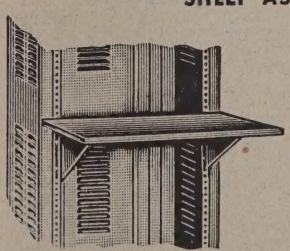
SLIDING DRAWER ASSEMBLY



Ideal for use as a record player mounting base, typewriter base, apparatus and instrument base, writing desk, etc. Installs quickly and simply in any standard rack. Can't fall out or tilt. Provides a completely safe mounting base for anything put on it. Ball bearing suspension for easy sliding. Chassis formed from one-piece 14 gauge aluminum; electrowelded. Support brackets formed from one-piece ⅛" steel. Slide rail fastens securely to chassis, slides in and out easily on channeled ball bearings. Stop screw on slide rail prevents drawer from falling out of channel. Support brackets finished in black, channel finished in natural aluminum; chassis, slide and plate finished in light gray hammertone. Will support up to 30 lbs. **Chassis Size:** 16¾" x 14" x 3", with ½" flange top and bottom. Drawer plate fastens to top or bottom.

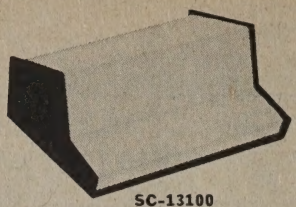
Bud No.	Description	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
SD-1717	Sliding drawer	5	$23.75	$21.40	$19.00
TP-1718	Drawer plate	1½	5.75	5.20	4.60

SHELF ASSEMBLY

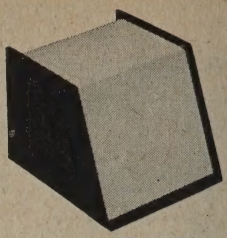


Immediately adds extra utility to a standard rack at very little cost. Useful as a desk, work space, etc. Gray or black rinkletex finish or gray hammertone finish will match all standard Bud rack finishes. Can't fall off or tilt; will support any reasonable weight. Shelf portion supported by two brackets, punched to fit standard panel mounting strips. No panel support needed but can be attached over panel if desired. Slides welded to bottom of shelf; mounting brackets slip into slides and fasten with two screws. All necessary hardware furnished. Formed of 16 gauge steel; ⅝" flange on all three sides; overall height, 7⅛". Brackets are 7" high. Specify black rinkletex (suffix **BR**), gray rinkletex (suffix **GR**), or light gray hammertone (suffix **HG**) finish.

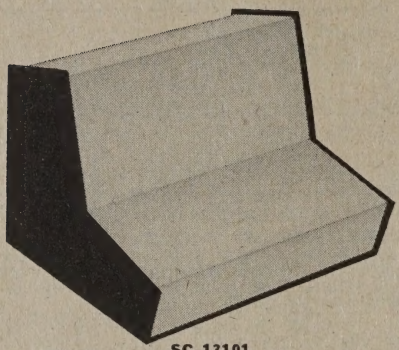
Bud No.	Size, Inches D. x W.	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
SA-1719	16 x 22	13¼	$19.10	$17.20	$15.30
SA-1720	20 x 22	15¼	19.25	17.35	15.40



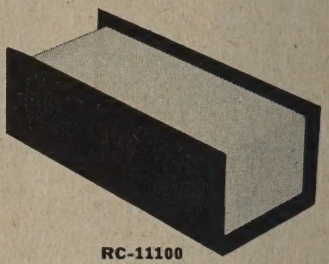
SC-13100



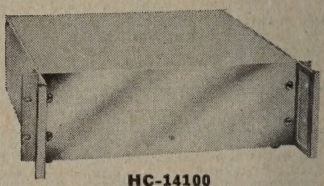
SC-12100



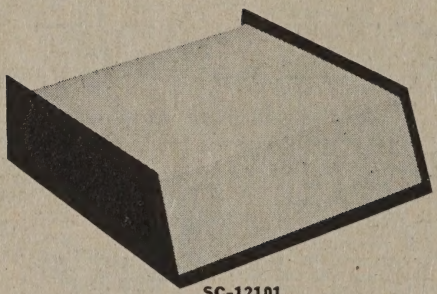
SC-13101



RC-11100



HC-14100



SC-12101

COMPUCAB SERIES

"Now Look" practical and adaptable to many types of instruments. New keyboard look matches today's advanced digital technology concept. All aluminum construction combines beauty, utility and sturdiness. No fasteners are visible on panel area. Shipped assembled. **Material:** Base, ⅛" aluminum; cover and back, 0.057" aluminum; feet, rubber, self-adhesive; 10-32 screws. **Finish:** Back and cover, smooth white enamel; base, black texture enamel; feet, black. **Assembled** with 6-32 screws. **Rear Panel:** One ⅞" dia. knockout centered, SC-13100; two ⅞" dia. knockouts and four sets of louvers, each set 2" w. x 1¾" h., SC-13101.

Bud No.	Overall Size, Inches W. x D. x H.	Net Each, Lots of 1-5	6-9	10-19
SC-13100	10 x 8⅞ x 5 1/32	$21.45	$19.30	$17.15
SC-13101	14 x 10¾ x 9 61/64	43.80	39.40	35.05

SLOPE SERIES

Sloping front enclosures for excellent visibility of panel mounted components. Modern concept in enclosures embodying clean vertical and horizontal lines. Highly desirable where quick access to the interior is needed. One-piece body is easily detached to provide access to interior components. No exposed fasteners. **Material:** Base, ⅛" aluminum; cover, 0.057" aluminum; feet, rubber, self-adhesive. **Finish:** Cover, smooth white enamel; base, black texture enamel. **Assembled** with 6-32 screws. **Rear Panel:** Single knockout centered, SC-12100; two knockouts, SC-12101. **Front Panel:** 20° slope.

Bud No.	Overall Size, Inches W. x D. x H.	Top Depth	Net Each, Lots of 1-24	25-34	35-49
SC-12100	5 x 5 x 4¼	3 3/64	$10.05	$ 9.05	$ 8.05
SC-12101	12 x 10 x 3¼	8 3/16	20.85	18.75	16.70

LINEAR SERIES

Highly practical enclosures offer solutions to the designer of electronic subsystems and instrumentation. Attractive and functional; one-piece body can be removed to expose the entire interior. No visible fasteners. With self-adhesive rubber feet. **Material:** Base, ⅛" aluminum; cover, 0.057" aluminum. **Finish:** Cover, smooth white enamel; base, black texture enamel; feet, black. **Assembled** with 6-32 screws. **Rear Panel:** Single knockout centered, RC-11100; two knockouts, RC-11101.

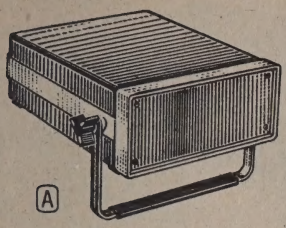
Bud No.	Overall Size, Inches W. x D. x H.	Net Each, Lots of 1-24	25-34	35-49
RC-11100	5 x 10 x 3¼	$14.85	$13.35	$11.90
RC-11101	12 x 10 x 8	32.60	29.35	26.10

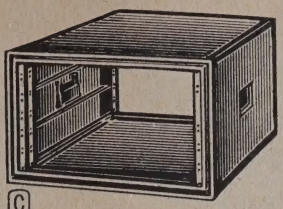
VALU/LINE CABINETS

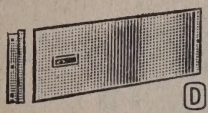
Classic and contemporary styling together with innovative engineering techniques result in a ruggedly built enclosure. Completely assembled unit includes two separate detachable rack mounting brackets and black rubber feet; adhesive paper protective covering on panels provides an excellent surface for indicating position when drilling or punching panel areas; ⅞" dia. knockout in rear. **Material:** Sides and front panel, ⅛" aluminum; base and cover, 0.057" aluminum; outer brackets, #11 gauge steel; inner brackets, 0.090" aluminum; handles, aluminum extrusion 6063-T5. **Finish:** Base and cover, white smooth enamel; sides, inner and outer brackets, white textured enamel; handles, caustic etch and clear lacquer. **Assembled** with 6-32 and 10-32 screws. Removable outer brackets for mounting in standard EIA 19" cabinet. Bails available as listed; slides also available.

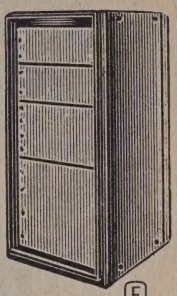
Bud No.	Size, Inches D. x W. x H.	Handle Cutouts No.	H., In.	Net Each, Lots of 1-3	4-7	8-10
HC-14100	13 x 12¾ x 3½	1	2¾	$63.95	$57.55	$51.15
HC-14101	13 x 17 x 3½	1	2¾	67.45	60.70	53.95
HC-14102	13 x 12¾ x 5¼	1	3½	66.05	59.45	52.85
HC-14103	13 x 17 x 5¼	1	3½	69.50	62.55	55.60
HC-14104	13 x 17 x 7	1	3½	72.95	65.65	58.35
HC-14105	13 x 17 x 8¾	2	3½	76.55	68.90	61.25
HC-14106	13 x 17 x 10½	2	3½	80.00	72.00	64.00
HC-14107	15 x 17 x 10½	2	3½	83.50	75.15	66.80
HC-14108	15 x 17 x 12¼	2	3½	86.90	78.20	69.50
HC-14109	15 x 17 x 14	3	3½	93.85	84.45	75.10

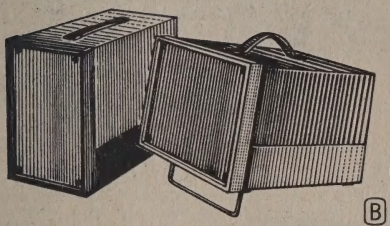
Bud No.	Description	Net Each, Lots of 1-9	10-24	25-49
BC-14210	Bail, 10" long	$4.65	$4.20	$3.70
BC-14215	Bail, 15" long	5.65	5.10	4.50











TR SERIES INSTRUMENT ENCLOSURES (FIG. A)

Versatile, functional, good looking instrument enclosures in four sizes, available immediately. Can be used as desk top instrument cases, in systems, or as portable enclosures. The TR Series is designed to accommodate an accessory chassis, also immediately available, or 1/16" thick printed circuit boards. Chassis is reversible, and two configurations are possible with one unit. Top and bottom of instrument enclosure are .050" aluminum; front panel, .090" aluminum. Top and bottom can be removed quickly for easy access to the unit's dust-free interior. Carrying handle is also used as tilting bail. Finished in mar-resistant, durable, easy to clean Nextel. Specify color by suffix, **BLN,** blue and white, or **BRN,** brown and white. Example: TR-6100**BLN.** Enclosure includes front panel, rubber feet and carrying handle. Weight: TR-6100, 4½ lbs.; TR-6101, 5½ lbs.; TR-6102, 7 lbs.; TR-6103, 9½ lbs.

Bud No.	Size, In. W.	D.	H.	Panel Space, In.	Net Each, Lots of 1-4	5-9	10-14
TR-6100	8 5/16	10 3/4	3 1/2	3 1/4 x 8 3/64	$64.80	$58.30	$51.85
TR-6101	8 5/16	13 1/4	5 1/4	5 x 8 3/64	69.40	62.45	55.50
TR-6102	11 1/16	13 1/4	7	6 3/4 x 10 53/64	75.95	68.35	60.75
TR-6103	12	18 3/4	8	7 3/4 x 11 3/4	82.10	73.90	65.70

CHASSIS FOR TR SERIES

Bud No.	Size, In. Length	Width	Height	Wt., Lbs.	Fits Cabinet	Net Each, Lots of 1-4	5-9	10-14
TRC-610	10 1/8	7 3/4	1 1/4	3/4	TR-6100	$6.00	$5.40	$4.80
TRC-611	12 5/8	7 3/4	1 3/4	1	TR-6101	6.45	5.80	5.15
TRC-612	12 5/8	10 1/2	1 3/4	1 1/4	TR-6102	7.25	6.55	5.80
TRC-613	18 1/8	11 7/16	1 3/4	1 3/4	TR-6103	9.10	8.20	7.30

SHOWCASE (FIG. B)

Used as desk top instrument cases, in systems, in racks, as portable enclosures. Lightweight, but sturdy, comes in ten different sizes. Top, sides and bottom are .050" aluminum; front panel is .090", rear panel is .050" aluminum. Strong flexible handle. Two standard color combinations: Black textured (BT) and white; royal blue (RB) and white.

Bud No.	Size, In. W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
BB-1800	5½ x 11 x 6 7/16	3¾	$47.30	$42.55	$37.85
BB-1801	8 5/16 x 11 x 6 7/16	4	49.15	44.25	39.30
BB-1802	5½ x 11 x 8 3/16	3¾	48.75	43.90	39.00
BB-1803	8 5/16 x 11 x 8 3/16	5½	51.00	45.90	40.80
BB-1804	11 1/16 x 11 x 8 3/16	5¾	53.05	47.75	42.45
BB-1805	5½ x 11 x 9 15/16	4¾	49.30	44.35	39.45
BB-1806	8 5/16 x 11 x 9 15/16	5¼	51.35	46.20	41.10
BB-1807	8 5/16 x 15 x 9 15/16	6¼	55.30	49.75	44.25
BB-1808	11 1/16 x 11 x 9 15/16	6	53.35	48.00	42.70
BB-1809	11 1/16 x 15 x 9 15/16	7	56.65	51.00	45.30

ALUMINUM CHASSIS FOR SHOWCASE

Bud No.	Fits	Size, In. W. x D. x H.	Wt., Lbs.	Net 1-14
BBC-1821	BB-1800-02-05	4 29/32 x 9 31/32 x 2	½	$3.20
BBC-1822	BB-1801-03-06	7 1/16 x 9 31/32 x 2	¾	3.75
BBC-1823	BB-1804-08	10 15/32 x 9 31/32 x 2	1	4.50
BBC-1824	BB-1807	7 1/16 x 13 31/32 x 2	1	4.30
BBC-1825	BB-1809	10 15/32 x 13 31/32 x 2	1¼	5.35

CLASSIC II CABINETS (FIG. C)

Combines serene rectilinear beauty with rugged construction. Double rim aluminum extrusion with edges polished, outlines front of cabinet. Two full-length steel flanges support the recessed anodized aluminum handles. Plain .060" aluminum panels on all four sides; textured finish. Clear inside depth, 20 3/16"; overall, 21 7/16". Specify color by suffix: **GT,** gray textured; **RB,** royal blue textured; **GD,** gold textured.

Bud No.	Overall Ht., In.	Panel Space, In.	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGC-9267	7 1/16	5 5/16	29¼	$117.95	$106.15	$ 94.35
AGC-9268	8 13/16	7 1/16	30½	124.25	111.85	99.40
AGC-9269	10 9/16	8 13/16	32¼	127.20	114.50	101.75
AGC-9270	12 5/16	10 9/16	33¼	131.50	118.35	105.20
AGC-9271	14 1/16	12 5/16	34¼	136.80	123.10	109.45
AGC-9272	15 13/16	14 1/16	35	141.00	126.90	112.80
AGC-9273	17 9/16	15 13/16	36	146.35	131.70	117.10
AGC-9274	19 5/16	17 9/16	36¾	150.65	135.60	120.50
AGC-9275	21 1/16	19 5/16	37¾	153.90	138.50	123.10
AGC-9276	22 13/16	21 1/16	38½	159.00	143.10	127.20
AGC-9277	24 9/16	22 13/16	39½	163.30	146.95	130.65
AGC-9278	26 5/16	24 9/16	40¼	167.80	151.00	134.25
AGC-9279	28 1/16	26 5/16	41¼	172.10	154.90	137.70
AGC-9280	29 13/16	28 1/16	42	175.75	158.20	140.60

CLASSIC II DOORS 19" WIDE (FIG. D)

Designed for use on Classic II Cabinets; also fit any rack or cabinet with 19" panel space by attaching to panel mounting rails. Made of 1/8" aluminum alloy 5005-H36. Stop fits on one panel mounting rail; hinged door attaches to other rail. Equipped with plated, flush-type latch. Finished in vinyl texture; specify color by suffix: **WH,** white textured; **S,** sand.

Bud No.	Height, In.	Wt., Lbs.	Net Each, Lots of 1-4	5-9	10-14
AGD-367	5¼	1¾	$11.90	$10.70	$ 9.50
AGD-368	7	2	13.85	12.45	11.10
AGD-369	8¾	2¾	15.30	13.75	12.25
AGD-370	10½	3	16.70	15.05	13.35
AGD-371	12¼	3½	17.90	16.10	14.30
AGD-372	14	4	18.30	16.45	14.65
AGD-373	15¾	4¾	20.70	18.65	16.55
AGD-374	17½	5	22.40	20.15	17.90
AGD-375	19¼	5½	23.95	21.55	19.15
AGD-376	21	6¼	25.50	22.95	20.40
AGD-377	22¾	6¾	26.75	24.10	21.40
AGD-378	24½	7¼	28.00	25.20	22.40
AGD-379	26¼	7½	29.60	26.65	23.70
AGD-380	28	8	31.70	28.55	25.35

CLASSIC II CABINET RACKS (FIG. E)

Clean, contemporary designed and dependable racks. Side panels and door are 18 gauge steel; top and bottom are 16 gauge steel. Double rimmed, brushed aluminum extrusion around front adds to the appearance of the rack. Comes in four sizes, and in two standard colors; gray textured (**GT**) and royal blue (**RB**); select white (**WH**) for panels and doors. **Size:** 22" w. x 22" d. Rear doors included.

Bud No.	Height, Inches	Panel Ht., In.*	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGR-9302	47 5/16	42	126	$190.05	$171.05	$152.05
AGR-9303	57 13/16	52½	146	211.00	189.90	168.80
AGR-9304	66 9/16	61¼	162	234.45	211.00	187.55
AGR-9306	82 5/16	77	181	268.55	241.70	214.85

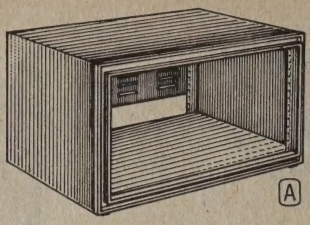
*On 19" width.

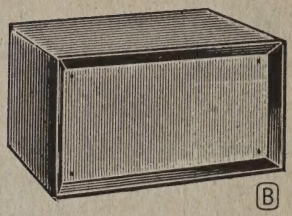
FRONT DOORS FOR CLASSIC II RACKS

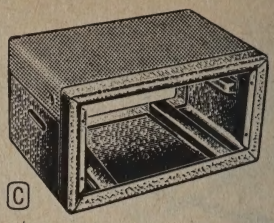
Rear doors included with racks.

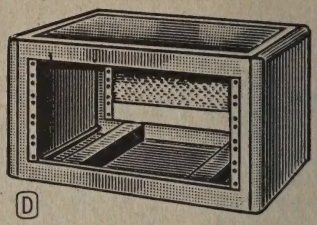
Bud No.	Fits Rack	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGD-932	AGR-9302	19	$38.05	$34.25	$30.45
AGD-933	AGR-9303	23	40.55	36.50	32.45
AGD-934	AGR-9304	26	42.70	38.45	34.15
AGD-936	AGR-9306	31	46.80	42.10	37.45

BUD Metal Cabinets









STYLIST SERIES CABINET (FIG. A)

Highly modern cabinet designed to give you the style and construction advantages that add value to your products. Square-corner design, aluminum extrusion framing of front panel lends a contemporary dimension which complements the appearance of your product. Full width flanges along top and bottom of cabinet add strength at each corner. No tilt, no sway when cabinet is loaded; panel dimensions remain constant. Load bearing capacity is 500 lbs. Constructed of 16 gauge cold rolled steel. Structure is self-supporting, no internal framework. Has 16 gauge steel louvered rear panel, 1¾" high opening for cable accessories. Front and rear openings meet E.I.A. standards, accept either 19" panels or Stylist Series doors. Self-adhesive rubber feet furnished. Specify suffix for color: **RB,** royal blue; **HG,** hammertone gray. Example: S-1640**RB. Size:** 20 3/16" w. x 15¼" d., overall.

Bud No.	Size, Inches: Overall Height	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-4	5-9	10-14
S-1640	8 3/16	7	26¾	$75.19	$67.65	$60.15
S-1641	10 9/16	8¾	29	78.80	70.90	63.05
S-1642	12 5/16	10½	31	82.90	74.60	66.30
S-1643	14 1/16	12¼	33	86.40	77.75	69.10
S-1644	15 13/16	14	35¼	90.05	81.05	72.05
S-1645	19 3/16	15¾	37¼	99.90	89.90	79.90

FRONT DOORS FOR STYLIST SERIES CABINETS

Overall width, 19". Specify color by suffix, **RB,** royal blue; **HG,** hammertone gray. Example: SD-540**RB.**

Bud No.	Height, In.	Wt., Lbs.	Fits Cabinet	Net Each, Lots of: 1-4	5-9	10-14
SD-540	7	4¾	S-1640	$15.05	$13.55	$12.05
SD-541	8¾	5½	S-1641	16.05	14.45	12.85
SD-542	10½	6¼	S-1642	16.90	15.20	13.50
SD-543	12¼	7	S-1643	17.45	15.70	13.95
SD-544	14	7¾	S-1644	18.65	16.80	14.90
SD-545	15¾	8½	S-1645	19.65	17.70	15.70

SHADOW CABINETS (FIG. B)

Front panel recessed 1". Front edge of body is beveled. Body of 18 gauge and panels of 16 gauge steel. Four rubber feet. Available in light gray hammertone finish only.

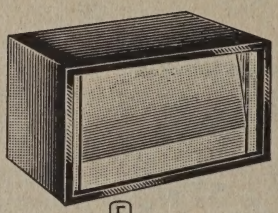
Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis: AC-	CB-	Net Each, Lots of: 1-24	25-49	50-99
SB-2140	14¼ x 8 x 10	424	704	$14.65	$13.20	$11.70
SB-2141	13¼ x 7½ x 9	407	1193	11.65	10.50	9.30
SB-2142	17 x 9½ x 11	411	666	19.45	17.50	15.55
SB-2143	15½ x 6 x 9	409	1194	11.05	9.95	8.85

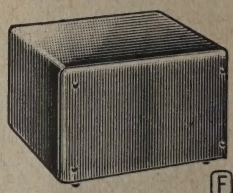
STANDARD PRESTIGE CABINETS (FIG. C)

Has two supporting rails, laterally movable to fit any chassis width, and shielded handle slots. Finger holes in cover for easy lifting. Of 16 gauge steel. Takes 19" panels. With embossed feet. **Size:** 21⅜" w. x 14¾" d. overall. Gray hammertone finish.

Bud No.	Size, Inches: Overall Height	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-14	15-24	25-34
C-1440	9 3/16	7	25	$55.35	$49.80	$44.30
C-1441	11 5/16	8¾	26	58.35	52.50	46.70
C-1442	13 1/16	10½	28½	60.85	54.75	48.70
C-1550*	9 3/16	7	23½	59.80	53.80	47.85
C-1551*	11 5/16	8¾	25	62.25	56.05	49.80
C-1552*	13 1/16	10½	27½	66.15	59.55	52.90

*With perforated cover; others solid.





PRESTIGE VERSA-CABINETS (FIG. D)

Balled corner, welded steel framework; sides top and bottom easily attached. Standard 19" panels used to enclose front or top. Has removable channels for shelf or chassis. Opening at back, 1¾" x 17 15/16" for controls, leads, etc. Cabinets may be attached side-to-side or stacked vertically. Perforated top panels and side handles available Gray Hammertone **(HG)** only. **Size:** 23 3/16" w. x 15¾" d., overall. Weight, 27 to 35 lbs.

Bud No.	Size, Inches: Overall Height	Size, Inches: Panel: Space	Size, Inches: Panel: Rear	Net Each, Lots of: 1-9	10-14	15-19
PC-1700	8¾	5¼	3½	$54.90	$49.40	$43.90
PC-1701	10½	7	5¼	58.10	52.30	46.50
PC-1702	12¼	8¾	7	59.65	53.70	47.70
PC-1703	14	10½	8¾	67.40	60.65	53.90
PC-1704	15¾	12¼	10½	71.00	63.90	56.80
PC-1710	Perforated steel top plate, 12¼ x 19			6.05	5.45	4.85

FUTURA CABINETS (FIG. E)

Handsome housing of 20 and 18 gauge steel. Four rubber feet. Numbers MD-1960 thru MD-1962 have vertical front panel; all others (Fig. E) have inclined front panel rising 2" vertically, then inclining 15°. Specify color by suffix: **BBY,** dark blue textured body with light blue textured panels; **HG,** gray hammertone body with light gray textured panels.

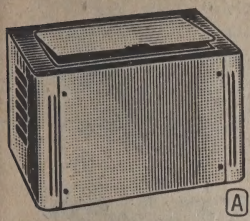
Bud No.	Overall Size, In. W. x H. x D.	Net Each, Lots of: 1-24	25-49	50-99
MD-1960	13 x 8 x 7	$14.10	$12.70	$11.30
MD-1961	14 x 9 x 8	15.25	13.75	12.20
MD-1962	16 x 9 x 8	15.70	14.15	12.55
MD-1963	13 x 8 x 7	16.55	14.90	13.25
MD-1964	14 x 9 x 8	17.70	15.95	14.15
MD-1965	16 x 9 x 8	19.00	17.10	15.20

CONTOUR UTILITY CABINETS (FIG. F)

Constructed of 20 gauge steel. Both front and rear panels are removable; the front panel is solid while the rear panel is louvered for proper ventilation. Four rubber feet, attached to base, prevent scratching surface the unit is placed on. Body is textured dark gray enamel; panel is textured light gray enamel.

Bud No.	Overall Size, In. W. x D. x H.	Net Each, Lots of: 1-24	25-49	50-99
CU-463	6 7/32 x 3¾ x 4 7/32	$ 8.90	$ 8.00	$ 7.10
CU-465	6 7/32 x 5¾ x 4 7/32	10.20	9.20	8.15
CU-585	8 7/32 x 5¾ x 5 7/32	13.05	11.75	10.45
CU-587	8 7/32 x 7¾ x 5 7/32	14.40	12.95	11.50
CU-7125	12 7/32 x 5¾ x 7 7/32	13.25	11.95	10.60
CU-7127	12 7/32 x 7¾ x 7 7/32	13.90	12.50	11.10

BUD Cabinets and Cases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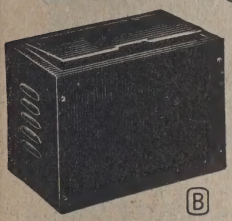
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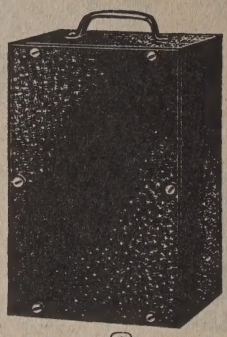
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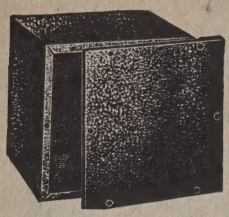
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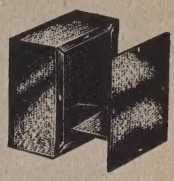

E

STREAMLINED CABINETS (FIG. A)

Ideal for housing devices not requiring excessive depth. Recessed, hinged cover with convenient finger lift for access. Panels fit flush with embossed, rounded corner fronts. Back opening 3½" h. provides for cables or rear controls; louvered sides provide ample ventilation. **Size:** 8¼" d. x 8" h. overall. Specify black rinkletex (suffix **BR**), gray rinkletex (suffix **GR**) or gray hammertone (suffix **HG**) finish.

Bud No.	Size, Inches Overall Width	Size, Inches Panel Space	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CD-1480	10½	8 x 8	6¼	$11.90	$10.70	$ 9.50
CD-1481	12½	8 x 10	6¾	12.00	10.80	9.60
CD-1482	14½	8 x 12	7½	12.80	11.50	10.25
CD-1483	16½	8 x 14	7¾	13.80	12.40	11.05
CD-1484	18½	8 x 16	9¼	14.65	13.20	11.70
CD-1485*	20⅝	12 x 18	17½	28.65	25.80	22.90

*Depth is 12".

INSTRUMENT AND RECEIVER CABINETS (FIG. B)

Economy version of the Streamlined Cabinet series. Recessed, hinged cover provides access to contents. Front panel is attached with self-tapping screws. Louvers provide ample ventilation. Black rinkletex finish only.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
C-973	7 x 8 x 8	4¾	$ 8.80	$ 7.90	$ 7.05
C-993	7 x 10 x 8	5	10.25	9.25	8.20
C-994	7 x 12 x 8	6	10.50	9.45	8.40
C-995	7 x 14 x 8	7	11.20	10.10	8.95
C-1190	8 x 16 x 8	8½	15.80	14.20	12.65
C-975	9 x 15 x 11	12¼	19.25	17.35	15.40
C-999	12 x 18 x 12	18¼	21.00	18.90	16.80

CARRYING CASES (FIG. C)

A versatile cabinet that accepts a variety of equipment. Removable front and back panels; handle may be attached to top. Available in sturdy steel or lightweight aluminum to suit your requirements.

STEEL CASES

Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**) finish when ordering.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CC-1095	5 x 6 x 9	3	$ 5.65	$5.10	$4.50
CC-1091	5 x 9 x 6	3	5.65	5.10	4.50
CC-1096	6 x 7 x 12	5¼	7.85	7.05	6.30
CC-1092	6 x 12 x 7	5	7.85	7.05	6.30
CC-1097	7 x 7¾ x 15	7¼	8.90	8.00	7.10
CC-1100	8 x 10 x 10	7	9.10	8.20	7.30
CC-1093	7 x 15 x 9	8	11.00	9.90	8.80

NATURAL FINISH ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
ACC-2095	5 x 6 x 9	1½	$5.80	$5.20	$4.65
ACC-2091	5 x 9 x 6	1½	5.80	5.20	4.65
ACC-2096	6 x 7 x 12	2½	8.80	7.90	7.05
ACC-2092	6 x 12 x 7	2½	8.80	7.90	7.05

GRAY HAMMERTONE ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
ACC-2095HG	5 x 6 x 9	1½	$ 6.60	$5.95	$5.30
ACC-2091HG	5 x 9 x 6	1½	6.60	5.95	5.30
ACC-2096HG	6 x 7 x 12	2½	10.20	9.20	8.15
ACC-2092HG	6 x 12 x 7	2½	10.20	9.20	8.15

*Aluminum alloy 5005 H-14.

METAL UTILITY CABINETS (FIG. D)

Highly useful housing for all types of electronic equipment. Both font and back panels are removable for easy accessibility.

STEEL CABINETS

Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**) finish.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
CU-883	2 x 4 x 4	¾	$2.20	$2.00	$1.75
CU-728	3 x 5 x 4	1	2.80	2.35	2.10
CU-729	4 x 5 x 6	1¾	3.90	3.50	3.10
CU-1098	6 x 6 x 6	2¼	4.45	4.00	3.55
CU-1099	5 x 6 x 9	3	5.00	4.50	4.00
CU-879	7 x 8 x 10	3¼	6.80	6.10	5.45
CU-1124	6 x 7 x 12	5	6.80	6.10	5.45
CU-880	8 x 10 x 10	6¼	7.95	7.15	6.35
CU-881	8 x 11 x 12	8½	8.75	7.90	7.00
CU-882	7 x 9 x 15	8¼	8.80	7.90	7.05

NATURAL FINISH ALUMINUM CABINETS*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
AU-1083	2 x 4 x 4	¼	$2.75	$2.50	$2.20
AU-1028	3 x 5 x 4	½	2.90	2.60	2.30
AU-1029	4 x 5 x 6	¾	3.30	2.95	2.65
AU-1039	6 x 6 x 6	1	4.75	4.30	3.80
AU-1040	5 x 6 x 9	1½	5.35	4.80	4.30

GRAY HAMMERTONE ALUMINUM CABINETS*

AU-1083HG	2 x 4 x 4	¼	$3.30	$2.95	$2.65
AU-1028HG	3 x 5 x 4	½	3.60	3.25	2.90
AU-1029HG	4 x 5 x 6	¾	3.90	3.50	3.10
AU-1039HG	6 x 6 x 6	1	5.20	4.70	4.15
AU-1040HG	5 x 6 x 9	1½	6.50	5.85	5.20

*Aluminum alloy 5005 H-14.

MINIATURE UTILITY CABINETS (FIG. E)

Ideal housing for construction of electronic devices. Front panel has a built-in chassis. Both front and rear panels are removable; fastened by self-tapping screws. Black rinkletex enamel finish.

Bud No.	Size, Inches W. x D. x H.	Size, Inches Chassis W. x D.	Net Each, Lots of 1-49	50-99	100-149
C-1793	4 x 4 x 2	3⅛ x 1⅞*	$2.50	$2.25	$2.00
C-1794	4 x 5 x 3	4⅛ x 2⅞*	2.90	2.60	2.30
C-1795	5 x 4 x 3	3⅛ x 2⅞†	3.15	2.85	2.50
C-1796	6 x 5 x 4	4⅛ x 3⅞‡	3.35	3.00	2.70
C-1797	5 x 6 x 4	5⅛ x 3⅞†	3.55	3.20	2.85
C-1798	6 x 6 x 6	4⅛ x 5⅞‡	4.60	4.15	3.70

*1" high. †1¼" high. ‡1¾" high.

UNIVERSAL SLOPING PANEL CABINETS

Fully enclosed and shielded housing with one-piece detachable back and sides fastened to body with four self-tapping screws. Components may be mounted on back, bottom, sides or front. Gray hammertone finish only.

ALUMINUM MODELS

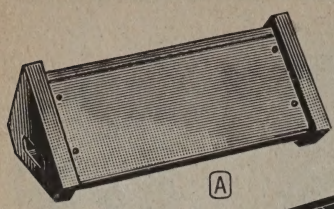
Aluminum alloy 5005 H-14.

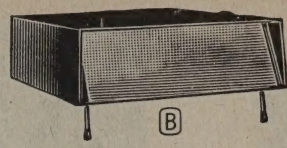
Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
AC-1610	4 x 4 1/16 x 4 13/64	⅜	$3.60	$3.25	$2.90
AC-1611	5 x 4 1/16 x 4 13/64	½	3.55	3.20	2.85
AC-1612	6 x 4 1/16 x 4 13/64	9/16	3.90	3.50	3.10
AC-1613	7 x 4 1/16 x 4 13/64	⅝	4.30	3.85	3.45

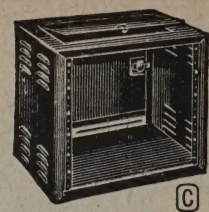
STEEL MODELS

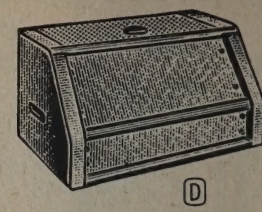
C-1606	4 x 4 1/16 x 4 13/64	1	$2.90	$2.60	$2.30
C-1607	5 x 4 1/16 x 4 13/64	1	3.05	2.75	2.45
C-1608	6 x 4 1/16 x 4 13/64	1¼	3.35	3.00	2.70
C-1609	7 x 4 1/16 x 4 13/64	1½	3.90	3.50	3.10

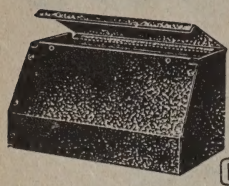
BUD Cabinets and Foundations

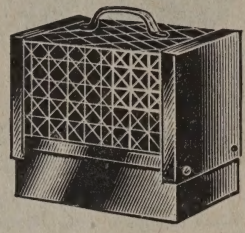


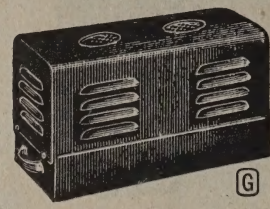


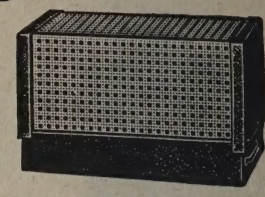












"MARK-T" CABINETS (FIG. A)

Many applications in the realm of control enclosures. Of welded 16 ga. steel with removable front panel and hinged door. Angle of panel and door permit easy viewing of contents. Turn of knurled knob opens door latch. Recessed carrying handles. Four rubber feet. Gray textured body with light gray panel and door. Extra door or panel available on special order. All $6\frac{33}{64}$" h.

Bud No.	Size, Inches W. x D.	Panel or Door Area, Inches	Net Each, Lots of 1-14	15-24	25-34
MT-214	16 x $10\frac{15}{32}$	$13\frac{15}{16}$ x $5\frac{17}{32}$	$45.45	$40.90	$36.35
MT-219	21 x $10\frac{15}{32}$	$18\frac{15}{16}$ x $5\frac{17}{32}$	49.75	44.80	39.80
MT-224	26 x $10\frac{15}{32}$	$23\frac{15}{16}$ x $5\frac{17}{32}$	58.55	52.70	46.85

"TILT-A-VIEW" CABINETS (FIG. B)

Artfully designed to present variable viewing angles excellent for observing meters, dials, etc. Two-piece, 18-ga. steel. Fast, easy access to interior. Two 2" high legs, detachable for changed viewing angle, have rubber feet. Can be mounted on desk, cabinet or wall. Hooded top. No screws in panels. Vinyl texture finish. Gray textured body with light sand panels.

Bud No.	Size, Inches W. x D. x H.	Net Each, Lots of 1-14	15-24	25-34
TV-2155	15 x 10 x $4\frac{1}{2}$	$13.25	$11.95	$10.60
TV-2156	16 x 12 x $6\frac{1}{2}$	15.55	14.00	12.45
TV-2157	17 x 14 x $8\frac{1}{2}$	22.55	20.30	18.05

DELUXE CABINET RACKS (FIG. C)

Heavy-gauge steel racks with recessed hinged door on top and snap catch; rounded corners. The five large sizes have hinged rear doors; others, welded rear panels. Louvered sides. Embossed metal feet. Specify black rinkletex (suffix **BR**), gray rinkletex (**GR**) or gray hammertone (**HG**). **Size:** $14\frac{3}{4}$" x 22" w. Fits 19" panels.

Bud No.	Size, Inches Overall Height	Size, Inches Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-1726	$8\frac{25}{32}$	7	28	$30.80	$27.70	$24.65
CR-1741	$10\frac{3}{16}$	$8\frac{3}{4}$	30	32.75	29.50	26.20
CR-1740	$12\frac{5}{16}$	$10\frac{1}{2}$	34	38.35	34.50	30.70
CR-1742	$14\frac{1}{16}$	$12\frac{1}{4}$	37	39.50	35.55	31.60
CR-1739	$15\frac{13}{16}$	14	40	53.55	48.20	42.85
CR-1743*	$19\frac{5}{16}$	$17\frac{1}{2}$	47	52.45	47.20	41.95
CR-1727*	$22\frac{13}{16}$	21	51	56.25	50.65	45.00
CR-1744*	$28\frac{1}{16}$	$26\frac{1}{4}$	58	60.60	54.55	48.50
CR-1728*	$33\frac{5}{16}$	$31\frac{1}{2}$	68	64.30	57.85	51.45
CR-1745*	$36\frac{13}{16}$	35	78	67.65	60.90	54.10

*These sizes have both top and rear doors.

HEAVY DUTY CABINET RACKS

Similar to above units with Add-A-Cab feature (similar to Add-A-Rack) for continuously expanding systems. Panel mounting rails are integral part of the sides. Removable rear door. Louvered sides and $2\frac{1}{2}$" x $17\frac{7}{8}$" opening in the bottom of the back assure adequate ventilation. Made of 16 ga. steel. **Size:** $17\frac{1}{8}$" d. x 22" w.

Bud No.	Size, Inches Overall Height	Size, Inches Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-1736	$24\frac{1}{2}$	$19\frac{1}{4}$	47	$57.75	$52.00	$46.20
CR-1737	$31\frac{1}{2}$	$26\frac{1}{4}$	56	62.00	55.80	49.60
CR-1738	$40\frac{1}{4}$	35	67	73.70	66.35	58.95

ADD-A-CAB FOR ABOVE CABINET RACKS

Bud No.	For Use With	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
ACR-1936	CR-1736	41	$57.30	$51.55	$45.85
ACR-1937	CR-1737	47	70.40	63.35	56.30
ACR-1938	CR-1738	55	72.70	65.45	58.15

PRESTIGE SLOPING PANEL CABINETS (FIG. D)

Ventilated top opens completely. Removable panel trim bar permits installation or removal of panels with chassis attached. Top panel is swept back for easy viewing. Takes standard 19" panels. Shielded lifting handles. Rear opening $2\frac{1}{2}$" x 18" for controls, etc.; panel recess $1\frac{1}{4}$"; bottom panel $3\frac{1}{2}$" high. **Size:** 22" w. x $9\frac{1}{4}$" top depth. Gray hammertone finish only. Weight, 25, 27 and 30 lbs.

Bud No.	Size, In. H. x D.	Slope H., In.	Net Each, Lots of 1-14	15-24	25-34
C-1555	$11\frac{7}{8}$ x $14\frac{3}{8}$	7	$65.25	$58.75	$52.20
C-1556	$13\frac{1}{4}$ x $15\frac{7}{8}$	$8\frac{3}{4}$	70.15	63.15	56.10
C-1557	$14\frac{3}{4}$ x $16\frac{1}{8}$	$10\frac{1}{2}$	75.20	67.70	60.15

SLOPING PANEL CABINETS (FIG. E)

Hinged top for easy access; front panel also removable. Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**).

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
C-1584	$6\frac{1}{2}$ x $7\frac{1}{16}$ x $7\frac{9}{32}$	$2\frac{3}{4}$	$ 6.75	$ 6.10	$ 5.40
C-1587	8 x $8\frac{1}{16}$ x 8	4	8.80	7.90	7.05
C-1585	$6\frac{1}{2}$ x $9\frac{1}{16}$ x $7\frac{9}{32}$	$2\frac{1}{2}$	7.35	6.60	5.90
C-1588	8 x $10\frac{1}{16}$ x 8	$4\frac{1}{2}$	9.80	8.80	7.85
C-1586	$6\frac{1}{2}$ x $11\frac{1}{16}$ x $7\frac{9}{32}$	$3\frac{3}{4}$	8.50	7.65	6.80
C-1894	8 x $14\frac{1}{16}$ x 8	6	10.25	9.25	8.20
C-1892	8 x $13\frac{1}{16}$ x $8\frac{15}{32}$	$5\frac{1}{2}$	11.40	10.25	9.10
C-1896	9 x $18\frac{1}{16}$ x $8\frac{9}{32}$	$9\frac{3}{4}$	14.50	13.05	11.60
C-1893	10 x $18\frac{1}{16}$ x $10\frac{1}{2}$	$12\frac{1}{2}$	14.95	13.45	11.95

MINIATURE AMPLIFIER FOUNDATION (FIG. F)

Compact amplifier foundation ideal for use with miniature components. Cover is perforated metal with attached handle for portability. Available in black rinkletex finish only.

Bud No.	Size, Inches Chassis	Size, Inches Ht.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-1754	5 x 7	6	2	$8.20	$7.40	$6.55

STREAMLINED FOUNDATIONS (FIG. G)

Attractive unit houses amplifiers and similar apparatus. Standard chassis with removable top cover with chrome trim. Sides and ends louvered. Handles attached to chassis. Overall height, 9"; chassis 3" high. Specify black rinkletex (suffix **BR**), or gray rinkletex (suffix **GR**).

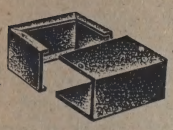
Bud No.	Size, Inches W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-1750	$10\frac{1}{16}$ x 5	$4\frac{1}{4}$	$14.25	$12.85	$11.40
CA-1751	$12\frac{1}{16}$ x 7	$5\frac{3}{4}$	16.85	15.15	13.50
CA-1752	$17\frac{1}{16}$ x 7	7	18.00	16.20	14.40
CA-1753	$17\frac{1}{16}$ x 10	$9\frac{3}{4}$	19.45	17.50	15.50

STANDARD FOUNDATIONS (FIG. H)

Standard chassis with perforated cover for maximum ventilation. Handles are attached to chassis. Chassis $2\frac{1}{2}$" h., except CA-1128, 3" h. Overall height, $8\frac{1}{32}$", except CA-1128, $8\frac{27}{32}$". Black rinkletex finish only.

Bud No.	Size, Inches W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-699	$9\frac{5}{8}$ x $5\frac{1}{8}$	$3\frac{3}{4}$	$11.35	$10.20	$ 9.10
CA-1125	$13\frac{5}{8}$ x $5\frac{1}{8}$	5	11.90	10.70	9.50
CA-1126	$17\frac{1}{8}$ x $7\frac{1}{8}$	$7\frac{1}{4}$	13.40	12.05	10.70
CA-1128	$12\frac{1}{8}$ x $10\frac{1}{8}$	$6\frac{1}{2}$	13.70	12.35	10.95

MINIBOXES, HANDY BOXES



Design of this box permits installation of more components than would be possible in the conventionally designed boxes the same size. Two-piece construction. **Either snap-lock or screw type.** The flange type construction assures adequate shielding. Made from heavy .040 ga. aluminum. Available in natural aluminum finish and gray hammertone finish.

GRAY HAMMERTONE MINIBOXES

Bud No.	Size, Inches L. x H. x W.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
CU-2100A	2¾ x 2⅛ x 1⅝	¼	$1.30	$1.15	$1.05
CU-2101A	3¼ x 2⅛ x 1⅝	¼	1.30	1.15	1.05
CU-2102A	4 x 2⅛ x 1⅝	¼	1.40	1.25	1.10
CU-2103A	4 x 2¼ x 2¼	¼	1.60	1.45	1.30
CU-2104A	5 x 2¼ x 2¼	¼	1.80	1.60	1.45
CU-2105A	5 x 4 x 3	½	2.15	1.95	1.70
CU-2106A	5¼ x 3 x 2⅛	¼	1.85	1.65	1.50
CU-2107A	6 x 5 x 4	¾	2.70	2.45	2.15
CU-2108A*	7 x 5 x 3	¾	3.10	2.80	2.50
CU-2109A*	8 x 6 x 3½	1	4.05	3.65	3.25
CU-2110A*	10 x 6 x 3½	1¼	4.40	3.95	3.50
CU-2111A*	12 x 7 x 4	1¾	6.00	5.40	4.80
CU-2112A*	17 x 5 x 4	2¼	6.00	5.40	4.80
CU-2113A*	10 x 2 x 1⅝	½	2.25	2.05	1.80
CU-2114A*	12 x 2½ x 2¼	¾	3.00	2.70	2.40
CU-2115A	4 x 2 x 2¾	¼	1.60	1.45	1.30
CU-2116A	4¼ x 2¼ x 1½	¼	1.60	1.45	1.30
CU-2117A	3¼ x 2⅛ x 1⅝	¼	1.60	1.45	1.30

*.050" aluminum.

NATURAL FINISH MINIBOXES

CU-3000A	2¾ x 2⅛ x 1⅝	¼	$1.15	$1.05	$0.90
CU-3001A	3¼ x 2⅛ x 1⅝	¼	1.15	1.05	.90
CU-3002A	4 x 2⅛ x 1⅝	¼	1.25	1.15	1.00
CU-3003A	4 x 2¼ x 2¼	¼	1.40	1.25	1.10
CU-3004A	5 x 2¼ x 2¼	¼	1.60	1.45	1.30
CU-3005A	5 x 4 x 3	½	1.60	1.45	1.30
CU-3006A	5¼ x 3 x 2⅛	¼	1.60	1.45	1.30
CU-3007A	6 x 5 x 4	¾	2.15	1.95	1.70
CU-3008A*	7 x 5 x 3	¾	2.70	2.45	2.15
CU-3009A*	8 x 6 x 3½	1	3.50	3.15	2.80
CU-3010A*	10 x 6 x 3½	1¼	3.75	3.40	3.00
CU-3011A*	12 x 7 x 4	1¾	5.25	4.75	4.20
CU-3012A*	17 x 5 x 4	2¼	5.25	4.75	4.20
CU-3013A*	10 x 2 x 1⅝	½	2.10	1.90	1.70
CU-3014A*	12 x 2½ x 2¼	¾	2.65	2.40	2.10
CU-3015A	4 x 2 x 2¾	¼	1.40	1.25	1.10
CU-3016A	4¼ x 2¼ x 1½	¼	1.40	1.25	1.10
CU-3017A	3¼ x 2⅛ x 1⅝	¼	1.25	1.15	1.00

*.050" aluminum.

HANDY BOXES

Similar to Miniboxes in design and construction, except made of 22 gauge steel. Black rinkletex finish only. Screw type only.

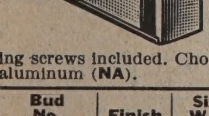
Bud No.	Size, Inches L. x H. x W.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
HB-1621	4¼ x 2¼ x 1½	¼	$2.65	$2.40	$2.10
HB-1622	4 x 2 x 2¾	½	2.65	2.40	2.10

ECONOBOX PRECISION DIECAST BOXES

Suitable for numerous uses where a small box is required. Diecast aluminum with close fitting, flange lid which attaches to bosses in the box by means of screws. Boxes are light weight and easily machined. CU-247 and CU-347 have 6 mounting holes for cover; all others have 4 mounting holes for cover. 6 x 32-½" flat head screws supplied. Height given includes cover.

Bud No.	Size, Inches W. x D. x H.	Net Each, Lots of 1-24	25-49	50-99
CU-123	1½ x 3 5/8 x 1 7/32	$1.85	$1.65	$1.50
CU-124	2 3/8 x 4 3/8 x 1 7/32	2.00	1.80	1.60
CU-234	3 1/16 x 4 11/16 x 2 7/32	3.15	2.85	2.50
CU-247	4 45/64 x 7 25/64 x 2 7/32	5.15	4.65	4.10
CU-347	4 45/64 x 7 25/64 x 3 7/32	5.60	5.05	4.50

MINISLIDES

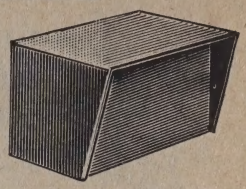


Ideal for housing components or assemblies where easy access to internally mounted parts is important. Can be mounted in a number of positions in a rack or cabinet. Accessibility achieved by removing sliding cover. Design of Minislide Box provides adequate shielding and protection from dust. Sturdily made of .050 aluminum. 4 self-tapping fastening screws included. Choice of gray hammertone (**HG**) or natural aluminum (**NA**).

Bud No.	Finish	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
MS-2150	(HG)	3⅛ x 13 x 2⅝	1	$6.00	$5.40	$4.80
MS-2151	(HG)	5⅛ x 13 x 2⅝	1½	6.65	6.00	5.30
MS-2152	(HG)	3⅛ x 17 x 2⅝	1¼	6.50	5.85	5.20
MS-3050	(NA)	3⅛ x 13 x 2⅝	1	4.40	3.95	3.50
MS-3051	(NA)	5⅛ x 13 x 2⅝	1½	5.40	4.85	4.30
MS-3052	(NA)	3⅛ x 17 x 2⅝	1¼	5.25	4.75	4.20

COWL-TYPE MINIBOXES

The cowl-type Minibox has a projecting cover to reduce glare on the panel from overhead lighting. It also provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled, this type of construction results in a sturdy, rigid housing. Constructed of .040" aluminum and available in natural or light hammertone gray finish.

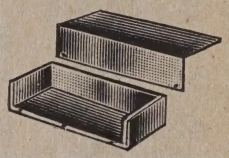


Bud No.	Overall Size, In. H. x W. x D.	Net Each, Lots of 1-49	50-99	100-149
SC-2130*	6 x 10 x 7	$ 9.50	$8.55	$7.60
SC-2131*	7 x 12 x 8	10.35	9.30	8.30
SC-2132*	3 x 8 x 5	5.50	4.95	4.40
SC-2133*	5 x 5 x 5	5.60	5.05	4.50
SC-3030†	6 x 10 x 7	6.90	6.20	5.50
SC-3031†	7 x 12 x 8	7.40	6.65	5.90
SC-3032†	3 x 8 x 5	3.90	3.50	3.10
SC-3033†	5 x 5 x 5	4.15	3.75	3.30

*Painted light gray hammertone. †Natural aluminum finish.

CONVERTA-BOXES

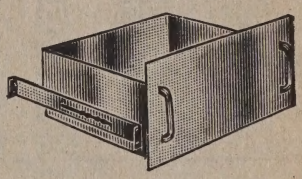
Versatile enclosure combines welded base and two-sided cover. Components or controls are easily mounted to any surface of the unit. All contents easily accessible. Cover and base are fastened by self-tapping screws. Rigid 20 ga. cadmium-plated steel.



Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CU-341	1½ x 4 x 3	½	$3.15	$2.85	$2.50
CU-452	2 x 5 x 4	¾	3.10	2.80	2.50
CU-482	2 x 8 x 4	1¼	3.25	2.95	2.60
CU-592	2½ x 9½ x 5	1¾	3.50	3.15	2.80
CU-622	2½ x 12 x 6	2¼	3.85	3.45	3.10
CU-712	2½ x 15 x 7	3	5.15	4.65	4.10

DRAWER WITH ADJUSTABLE SLIDES

Fits any cabinet or cabinet rack with 19" panel space. Slide bracket adjustable 16½" to 24¼" to fit any cabinet with depth 17" to 25½". Fastens by bracket to panel mounting rail in front and rear of cabinet. Nylon rollers for smooth movement. Hardware supplied. Specify color when ordering: Add suffix **HG** for gray hammertone; **BR** for black rinkletex; **GR** for gray rinkletex.



Bud No.	Inside Size, Inches	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
D-1721	16 19/32 x 6 1/32 x 16 13/64	19½	$63.60	$57.25	$50.90

UNIVERSAL METER CASES

Center hole punched for 2" meters, plus easily removed knock-out ring to provide fit for 3" meters. Single piece detachable back and sides fastened to case with self-tapping screws for easy installation and servicing. Two ⅝" knock-out holes in top provide for installation of feed-through insulators, switches, volume controls, etc. Gray hammertone finish only. **Size:** 4 19/64" h. x 4" w. x 4 1/16" d.

Bud No.	Construction	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
CM-1935	Steel	¾	$2.35	$2.10	$1.90
CMA-1936	Aluminum	¼	2.75	2.50	2.20

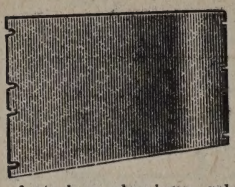
WIDE UNIVERSAL METER CASE

Same as above, except extra wide to permit installation of small components along with a meter or accommodate a 4" meter. Made of 5005 H-14 aluminum. **Size:** 4 19/64" h. x 6" w. x 4 1/16" d.

Bud No.	Construction	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
CMA-1930	Aluminum	½	$4.60	$4.15	$3.70

BUD Relay Rack Panels, Chassis

STANDARD RELAY RACK PANELS



Choice of steel or aluminum relay rack panels, 1/8" or 3/16" thick, in both 19" and 24" widths. Specify color when ordering, use suffix: **BR,** black rinkletex; **GR,** gray rinkletex; **HG,** gray hammertone; **BY,** light blue textured; **GY,** light gray textured; **WH,** white; **S,** sand. Aluminum panels 5005 H-36 or 2024 T-3 alloy.

	24" WIDE PANELS				19" WIDE PANELS			
	1/8" 5005 H-36 ALUMINUM				3/16" 5005 H-36 ALUMINUM			
		Net Each, Lots of				Net Each, Lots of		
Ht., In.	Bud No.	1-49	50-99	100-149	Bud No.	1-49	50-99	100-149
1¾	PA-2401	$ 3.80	$ 3.40	$ 3.05	PA-3101	$ 3.70	$ 3.35	$ 2.95
3½	PA-2402	4.90	4.40	3.90	PA-3102	5.20	4.70	4.15
5¼	PA-2403	6.60	5.95	5.30	PA-3103	6.90	6.20	5.50
7	PA-2404	7.70	6.95	6.15	PA-3104	8.50	7.65	6.80
8¾	PA-2405	9.60	8.65	7.70	PA-3105	10.00	9.00	8.00
10½	PA-2406	11.70	10.55	9.35	PA-3106	12.60	11.35	10.10
12¼	PA-2407	13.20	11.90	10.55	PA-3107	14.50	13.05	11.60
14	PA-2408	15.90	14.30	12.70	PA-3108	16.20	14.60	12.95
15¾	PA-2409	17.20	15.50	13.75	PA-3109	18.80	16.90	15.05
17½	PA-2410	17.80	16.00	14.25	PA-3110	20.60	18.55	16.50
19¼	PA-2411	19.70	17.75	15.75	PA-3111	22.50	20.25	18.00
21	PA-2412	21.70	19.55	17.35	PA-3112	24.70	22.25	19.75

19" WIDE 1/8" STEEL AND ALUMINUM PANELS

	1/8" STEEL				1/8" 2024 T-3 ALUMINUM				1/8" 5005 H-36 ALUMINUM				
		Net Each, Lots of				Net Each, Lots of				Net Each, Lots of			
Ht., In.	Bud No.	1-49	50-99	100-149	Bud No.	1-49	50-99	100-149	Bud No.	1-49	50-99	100-149	Ht., In.
1¾	PS-1250	$2.05	$1.85	$1.65	PA-1131	$2.80	$2.50	$2.25	PA-1101	$ 2.40	$ 2.15	$ 1.90	1¾
3½	PS-1251	2.40	2.15	1.90	PA-1132	3.70	3.35	2.95	PA-1102	3.30	2.95	2.65	3½
5¼	PS-1252	3.00	2.70	2.40	PA-1133	4.90	4.40	3.90	PA-1103	4.30	3.85	3.45	5¼
7	PS-1253	3.20	2.90	2.55	PA-1134	6.30	5.65	5.05	PA-1104	5.50	4.95	4.40	7
8¾	PS-1254	4.30	3.85	3.45	PA-1135	7.00	6.30	5.60	PA-1105	6.20	5.60	4.95	8¾
10½	PS-1255	5.10	4.60	4.10	PA-1136	9.00	8.10	7.20	PA-1106	8.00	7.20	6.40	10½
12¼	PS-1256	5.70	5.15	4.55	PA-1137	10.30	9.25	8.25	PA-1107	9.20	8.30	7.35	12¼
14	PS-1257	6.50	5.85	5.20	PA-1138	12.00	10.80	9.60	PA-1108	10.50	9.45	8.40	14
15¾	PS-1258	7.00	6.30	5.60	PA-1139	13.00	11.70	10.40	PA-1109	11.70	10.55	9.35	15¾
17½	PS-1259	7.80	7.00	6.25	PA-1140	14.00	12.60	11.20	PA-1110	12.80	11.50	10.25	17½
19¼	PS-1260	8.60	7.75	6.90	PA-1141	15.10	13.60	12.10	PA-1111	14.00	12.60	11.20	19¼
21	PS-1261	9.80	8.80	7.85	PA-1142	17.30	15.55	13.85	PA-1112	15.50	13.95	12.40	21

SURFACE SHIELD PANELS

Bright aluminum alloy 5005 H-36 panels have blemish-free mill finish. Covered on both sides with sturdy, pressure-sensitive, white paper; protects against damage and useful for marking for drilling, positioning, etc. Standard notched sizes.

	1/8" ALUMINUM				3/16" ALUMINUM			
		Net Each, Lots of				Net Each, Lots of		
Ht., In.	Bud No.	1-49	50-99	100-149	Bud No.	1-49	50-99	100-149
1¾	SFA-1831	$ 2.00	$ 1.80	$ 1.60	SFA-3161	$ 3.90	$ 3.50	$ 3.10
3½	SFA-1832	3.40	3.05	2.70	SFA-3162	5.50	4.95	4.40
5¼	SFA-1833	4.40	3.95	3.50	SFA-3163	7.20	6.50	5.75
7	SFA-1834	5.40	4.85	4.30	SFA-3164	9.00	8.10	7.20
8¾	SFA-1835	6.30	5.65	5.05	SFA-3165	10.60	9.55	8.50
10½	SFA-1836	8.20	7.40	6.55	SFA-3166	12.40	11.15	9.90
12¼	SFA-1837	9.40	8.45	7.50	SFA-3167	15.70	14.15	12.55
14	SFA-1838	10.60	9.55	8.50	SFA-3168	17.80	16.00	14.25
15¾	SFA-1839	12.00	10.80	9.60	SFA-3169	20.00	18.00	16.00
17½	SFA-1840	13.20	11.90	10.55	SFA-3170	22.10	19.90	17.70
19¼	SFA-1841	14.70	13.25	11.75	SFA-3171	24.30	21.85	19.45
21	SFA-1842	15.90	14.30	12.70	SFA-3172	26.30	23.65	21.05

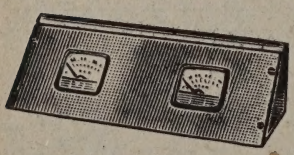
CHASSIS MTG. BRACKETS

Mounts chassis to panels; supports entire chassis weight. Heavy gauge steel 6½" high, cut away at bottom to mount flush to panel. Black enamel finish.

Bud No.	Depth, In.	Net per Pair, Lots of 1-49	50-99	100-149
MB-458	8	$2.45	$2.20	$1.95
MB-448	10	2.45	2.20	1.95
MB-459	11	2.90	2.60	2.30
MB-449	12	3.30	2.95	2.65
MB-460	13	3.05	2.75	2.45
MB-450	10	3.75	3.40	3.00
MB-451*	13	3.90	3.50	3.10

*8½" high for chassis height of 4".

DUAL-VIEW PANEL SUPPORT



Designed for installation on a rack where an oblique view of instrument panel is desired. Engineered so that the entire assembly occupies no more space than size of supported panel. Panel support cover can be removed for easy servicing or installation of instruments. Made of heavy gauge steel with contoured edges. Comes knocked-down with necessary assembly hardware, but without panels. Bud panels to fit these supports are PS-1253 (steel), and PA-1104 (aluminum) for Model IP-1120; PS-1255 (steel), and PA-1106 (aluminum) for IP-1121. Specify color when ordering, use suffix: **BR,** for black rinkletex; **HG,** gray hammertone; **GR,** gray rinkletex; **GY,** light gray textured; **BY,** light blue textured.

Bud No.	Panel Space Required, In.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
IP-1120	19 x 7	3½	$ 8.05	$ 7.25	$6.45
IP-1121	19 x 10½	6¾	11.35	10.20	9.10

TRIANGULAR MOUNTING BRACKETS

Ideal for rigid support of shelves to take heavy loads. Heavy gauge steel with ¾" flange. Black enamel finish only.

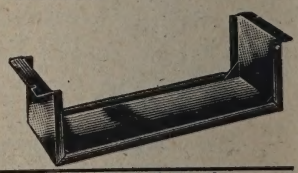
Bud No.	Size, In. D. x H.	Wt., Lbs.	Net per Pair, Lots of 1-49	50-99	100-149
MB-1266	5 x 5	½	$1.90	$1.70	$1.50
MB-1267	7 x 7	1	2.30	2.05	1.85
MB-1268	9 x 9	1½	2.90	2.60	2.30

CHASSIS SUPPORTING ANGLES

Distribute weight to sides of the rack to relieve the panel. Angles are 3" x 1⅜" x 7/64" steel. Black enamel finish. **No. CE-2219** designed for attachment to rails of Prestige Relay Racks. Slotted for infinite vertical adjustment; extend to full cabinet depth; 21" x 3" x 2¾".

Bud No.	Length, Inches	Wt., Lbs.	Net per Pair, Lots of 1-24	25-49	50-99
SA-1349	14½	3½	$4.45	$4.00	$3.55
SA-1350	12	3	4.45	4.00	3.55
CE-2219	21	6½	5.90	5.30	4.70

PANEL CHASSIS



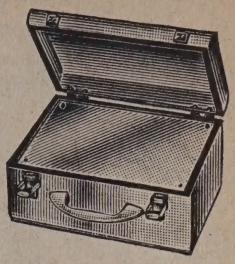
Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .060" aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.

Bud No.	Height, Inches	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CB-1370	1¾	¾	$4.00	$3.60	$3.20
CB-1371	3½	1¼	4.50	4.05	3.60
CB-1372	5¼	1½	5.05	4.55	4.05
CB-1373	7	2	5.65	5.10	4.50
CB-1374	8¾	2¼	6.90	6.20	5.50
CB-1375	10½	2¾	8.00	7.20	6.40
CB-1376	12¼	3	8.90	8.00	7.10
CB-1377	14	3¼	9.75	8.80	7.80

BUD Cases and Chassis Bases

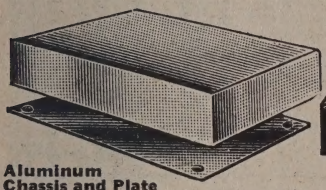
TRANSICASE PORTABLE INSTRUMENT CASES

Handsome, portable instrument case with unlimited applications. Contour design fabricated of .040" aluminum with flush-fitting aluminum panel. Lid protects instruments in case; mounted on two slide-off, bright nickel-plated hinges with toggle catches. Rubber feet at both base and back; metal plugs supplied to fill holes if rubber feet are not used. Bright nickel-plated handle. **Specify Color:** Add suffix **BBY** for textured blue; **GGY** for textured gray enamel.

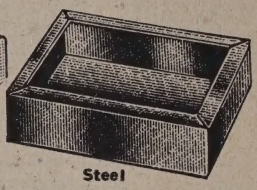


Bud No.	Inside Panel Size, Inches	Clear Internal Space, Inches: Below Panel	Clear Internal Space, Inches: Above Panel	Internal Aperture, Inches	Overall Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of: 1-9	10-14	15-19
TC-300	8 15/16 x 5 15/16	4 13/32	1 15/32	8 x 5 31/32	10 1/16 x 7 x 5	2 1/2	$36.85	$33.15	$29.50
TC-301	10 3/8 x 7 1/4	4 13/32	1 15/32	9 7/16 x 7 9/32	11 1/2 x 8 1/4 x 6	3 1/4	37.95	34.15	30.35
TC-302	11 7/8 x 7 15/16	5 29/32	1 15/32	10 15/16 x 7 31/32	13 x 9 x 7 1/2	4	40.55	36.50	32.45
TC-303	15 3/8 x 7 15/16	5 29/32	1 15/32	14 7/16 x 7 31/32	16 1/2 x 9 x 7 1/2	4 3/4	41.15	37.05	32.90
TC-304	19 x 7	7 1/32	1 15/32	18 1/16 x 7 1/32	20 1/8 x 8 x 9	6 3/4	43.45	39.10	34.75

ALUMINUM AND STEEL CHASSIS BASES



Aluminum Chassis and Plate



Steel

Each chassis is made from a single sheet of metal. All corners are reinforced and spot welded. Natural finish aluminum alloy 5005 H-14. All four sides are folded at the bottom for added rigidity and strength.

See following page for Chassis Bottom Plates.

ALUMINUM CHASSIS BASES

Bud No.	Size, Inches D. x W. x H.	Ga.	Wt., Lbs.	Net Each, Lots of: 1-24	25-49	50-99
AC-1401	2 1/2 x 4 1/2 x 1	18	1/8	$ 1.75	$ 1.60	$ 1.40
AC-1402	3 1/2 x 4 1/2 x 1	18	1/8	1.80	1.60	1.45
AC-1403	3 1/2 x 5 1/2 x 1	18	1/8	1.80	1.60	1.45
AC-1404	4 x 5 x 2	18	1/4	2.20	2.00	1.75
AC-1405	4 x 6 x 1 1/2	18	1/4	1.95	1.75	1.55
AC-430	4 x 6 x 3	18	1/3	2.35	2.10	1.90
AC-431	4 x 6 x 2	18	1/4	2.20	2.00	1.75
AC-1406	4 x 8 x 2	18	1/4	2.50	2.25	2.00
AC-432	4 x 17 x 3	16	1	4.25	3.85	3.40
AC-1407	4 1/2 x 8 x 1 1/2	18	1/4	2.30	2.05	1.85
AC-402	5 x 7 x 2	18	1/3	2.30	2.05	1.85
AC-429	5 x 7 x 3	18	1/2	2.60	2.35	2.10
AC-1408	5 x 9 x 1 1/2	18	1/3	2.30	2.05	1.85
AC-1409	5 x 9 1/2 x 1 1/2	18	1/3	2.30	2.05	1.85
AC-403	5 x 9 1/2 x 2	18	1/2	2.50	2.25	2.00
AC-401	5 x 9 1/2 x 2 1/2	18	1/2	2.90	2.60	2.30
AC-421	5 x 9 1/2 x 3	18	5/8	3.05	2.75	2.45
AC-404	5 x 10 x 3	18	5/8	3.05	2.75	2.45
AC-422	5 x 13 x 3	18	3/4	3.45	3.10	2.75
AC-1410	5 x 13 1/2 x 2 1/2	18	3/4	3.15	2.85	2.50
AC-1411	5 1/2 x 5 1/2 x 1	18	1/3	2.10	1.90	1.70
AC-1412	5 1/2 x 9 1/2 x 1 1/2	18	1/3	2.30	2.05	1.85
AC-1413	6 x 8 x 2	18	1/3	2.50	2.25	2.00
AC-1414	6 x 14 x 3	16	1 1/8	4.40	3.95	3.50
AC-433	6 x 17 x 3	16	1 1/4	5.05	4.55	4.05
AC-405	7 x 7 x 2	18	1/2	2.50	2.25	2.00
AC-406	7 x 9 x 2	18	1/2	2.60	2.35	2.10
AC-407	7 x 11 x 2	18	5/8	3.05	2.75	2.45
AC-408	7 x 12 x 3	18	7/8	3.70	3.35	2.95
AC-409	7 x 13 x 2	18	3/4	3.15	2.85	2.50
AC-1415	7 x 15 x 2	16	1	4.00	3.60	3.20
AC-411	7 x 15 x 3	16	1 1/4	5.05	4.55	4.05
AC-1416	7 x 17 x 2	16	1 1/8	4.50	4.05	3.60
AC-1417	7 x 17 x 2 1/2	16	1 1/4	4.70	4.25	3.75
AC-423	7 x 17 x 3	16	1 1/2	5.05	4.55	4.05
AC-1418	8 x 10 x 2 1/2	18	1	3.75	3.40	3.00
AC-1419	8 x 12 x 2 1/2	16	1 1/8	4.40	3.95	3.50
AC-424	8 x 12 x 3	16	1 1/4	4.30	3.85	3.45
AC-425	8 x 17 x 2	16	1 1/2	4.50	4.05	3.60
AC-412*	8 x 17 x 3	16	1 3/4	5.25	4.75	4.20
AC-1420	8 1/2 x 15 x 3	16	1 1/2	4.85	4.35	3.90
AC-1421	9 x 15 x 3	16	1 1/2	5.50	4.95	4.40
AC-413	10 x 12 x 3	16	1 1/4	5.25	4.75	4.20
AC-414	10 x 14 x 3	16	1 1/2	5.25	4.75	4.20
AC-415*	10 x 17 x 2	16	1 1/2	5.05	4.55	4.05
AC-416*	10 x 17 x 3	16	1 3/4	5.80	5.20	4.65
AC-427*	10 x 17 x 4	14	2 1/2	8.15	7.35	6.50
AC-1422	10 x 17 x 5	16	2 1/4	11.85	10.65	9.50
AC-1423	10 x 23 x 3	14	2 3/4	8.70	7.85	6.95
AC-426*	11 x 17 x 2	14	2	6.35	5.70	5.10
AC-417*	11 x 17 x 3	14	2 1/4	7.30	6.55	5.85
AC-1424	12 x 12 x 3	16	1 1/2	5.35	4.80	4.30
AC-1425	12 x 17 x 2	16	1 5/8	6.60	5.95	5.30
AC-418*	12 x 17 x 3	14	2 1/4	7.55	6.80	6.05
AC-419*	13 x 17 x 2	14	2 5/8	6.50	5.85	5.20
AC-420*	13 x 17 x 3	14	2 3/4	7.80	7.00	6.25
AC-428*	13 x 17 x 4	14	3 1/4	9.50	8.55	7.60
AC-1426	13 x 17 x 5	14	3 1/2	13.05	11.75	10.45
AC-1427	14 x 17 x 3	14	2 3/4	9.25	8.35	7.40
AC-1428	15 x 17 x 4	14	3 1/4	13.05	11.75	10.45
AC-1429	15 x 17 x 6	14	4 1/8	17.90	16.10	14.13
AC-1430	17 x 17 x 3	14	3 1/4	11.70	10.55	9.35
AC-1431	17 x 17 x 4	14	3 7/8	15.50	13.95	12.40

*Punched to accommodate chassis mounting brackets.

STEEL CHASSIS BASES ZINC PLATED FINISH

Bud No.	Size, Inches D. x W. x H.	Ga.	Net Each, Lots of: 1-24	25-49	50-99
CB-1066	4 x 17 x 3	20	$ 5.35	$ 4.80	$4.30
CB-102	4 1/2 x 8 x 1 1/2	22	3.90	3.50	3.10
CB-629	5 x 7 x 2	22	3.35	3.00	2.70
CB-103	5 x 9 x 1 1/2	22	3.55	3.20	2.85
CB-776	5 x 9 1/2 x 1 1/2	22	4.35	3.90	3.50
CB-645	5 x 9 1/2 x 2 1/2	22	4.35	3.90	3.50
CB-605	5 x 10 x 3	22	4.80	4.30	3.85
CB-105	5 x 13 x 3	20	5.65	5.10	4.50
CB-1198	5 x 13 1/2 x 2 1/2	20	5.80	5.20	4.65
CB-101	5 1/2 x 5 1/2 x 1	22	3.55	3.20	2.85
CB-104	6 x 8 x 2	20	3.90	3.50	3.10
CB-756	6 x 14 x 3	20	4.15	3.75	3.30
CB-1191	7 x 7 x 2	20	4.15	3.75	3.30
CB-1192	7 x 9 x 2	20	4.55	4.10	3.65
CB-1193	7 x 11 x 2	20	5.35	4.80	4.30
CB-793	7 x 12 x 3	20	4.85	4.35	3.90
CB-1194	7 x 13 x 2	20	6.20	5.60	4.95
CB-1189	7 x 15 x 3	20	6.00	5.40	4.80
CB-1199	7 x 17 x 2 1/2	20	6.65	6.00	5.30
CB-758	7 x 17 x 3	20	5.15	4.65	4.10
CB-702	8 x 10 x 2 1/2	20	5.80	5.20	4.65
CB-704	8 x 12 x 2 1/2	20	6.00	5.40	4.80
CB-760	8 x 12 x 3	20	6.00	5.40	4.80
CB-774	8 x 17 x 2	20	6.65	6.00	5.30
CB-775	8 x 17 x 3	20	7.00	6.30	5.60
CB-666	8 1/2 x 15 x 3	20	6.15	5.55	4.90
CB-1195	10 x 12 x 3	20	6.15	5.55	4.90
CB-779	10 x 14 x 3	20	6.15	5.55	4.90
CB-769	10 x 17 x 2	20	7.35	6.60	5.90
CB-637	10 x 17 x 3	20	7.80	7.00	6.25
CB-1196	10 x 17 x 3	18	9.20	8.30	7.35
CB-641	10 x 17 x 4	18	13.80	12.40	11.05
CB-624	10 x 17 x 5	18	9.00	8.10	7.20
CB-1197	10 x 23 x 3	18	7.15	6.45	5.70
CB-770	11 x 17 x 2	18	9.15	8.25	7.30
CB-771	11 x 17 x 3	18	8.00	7.20	6.40
CB-106	12 x 12 x 3	18	7.85	7.05	6.30
CB-661	12 x 17 x 2	18	9.45	8.50	7.55
CB-662	12 x 17 x 3	18	9.55	8.60	7.65
CB-772	13 x 17 x 2	18	10.55	9.50	8.45
CB-773	13 x 17 x 3	18	12.15	10.95	9.70
CB-643	13 x 17 x 4	18	13.15	11.85	10.50
CB-626	13 x 17 x 5	18			

BLACK RINKLETEX FINISH

CB-1068	4 x 17 x 3	20	$4.80	$4.30	$3.85
CB-628	5 x 7 x 2	22	2.80	2.50	2.25
CB-788	5 x 9 1/2 x 1 1/2	22	3.15	2.85	2.50
CB-644	5 x 9 1/2 x 2 1/2	22	3.55	3.20	2.85
CB-604	5 x 10 x 3	22	3.55	3.20	2.85
CB-647	5 x 13 1/2 x 2 1/2	20	4.55	4.10	3.65
CB-755	6 x 14 x 3	20	4.55	4.10	3.65
CB-789	7 x 7 x 2	20	3.35	3.00	2.70
CB-790	7 x 9 x 2	20	3.55	3.20	2.85
CB-791	7 x 11 x 2	20	3.65	3.30	2.90
CB-792	7 x 12 x 3	20	4.15	3.75	3.30
CB-646	7 x 13 x 2	20	3.85	3.45	3.10
CB-649	7 x 15 x 3	20	5.15	4.65	4.10
CB-648	7 x 17 x 2 1/2	20	5.15	4.65	4.10
CB-757	7 x 17 x 3	20	5.80	5.20	4.65
CB-701	8 x 10 x 2 1/2	20	4.35	3.90	3.50
CB-703	8 x 12 x 2 1/2	20	4.55	4.10	3.65
CB-759	8 x 12 x 3	20	4.80	4.30	3.85
CB-650	8 x 17 x 2	20	4.35	3.90	3.50
CB-651*	8 x 17 x 3	20	5.20	4.70	4.15
CB-665	8 1/2 x 15 x 3	20	5.80	5.20	4.65
CB-652	10 x 12 x 3	20	4.85	4.35	3.90
CB-653	10 x 14 x 3	20	5.20	4.70	4.15
CB-654*	10 x 17 x 2	20	5.15	4.65	4.10
CB-636*	10 x 17 x 3	20	5.15	4.65	4.10
CB-655*	10 x 17 x 3	18	6.55	5.90	5.25
CB-640*	10 x 17 x 4	18	8.20	7.40	6.55
CB-623	10 x 17 x 5	18	11.65	10.50	9.30
CB-656	10 x 23 x 3	18	7.65	6.90	6.10
CB-657*	11 x 17 x 2	18	6.00	5.40	4.80
CB-658*	11 x 17 x 3	18	7.00	6.30	5.60
CB-663*	12 x 17 x 2	18	6.65	6.00	5.30
CB-664*	12 x 17 x 3	18	7.35	6.60	5.90
CB-659*	13 x 17 x 2	18	7.55	6.80	6.05
CB-660*	13 x 17 x 3	18	8.65	7.80	6.90
CB-642*	13 x 17 x 4	18	10.15	9.15	8.10
CB-625	13 x 17 x 5	18	12.80	11.50	10.25

*Punched to accommodate chassis mounting brackets.

Chassis Accessories, Plastic Boxes

BUD ALUMINUM AND STEEL CHASSIS BOTTOM PLATES

Serve as dust covers and protect wiring and components on under side of chassis. Fits all sizes of chassis. Available in both steel and natural finish aluminum plate. **See preceding page for aluminum and steel chassis.**

ALUMINUM CHASSIS BOTTOM PLATES

Bud No.	Fits Chassis Size, Inches W. x L.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
BPA-1501	2½ x 4½	1/16	$1.00	$0.90	$0.80
BPA-1502	3½ x 4½	1/16	1.10	1.00	.90
BPA-1503	3½ x 5½	1/8	1.10	1.00	.90
BPA-1504	4 x 5	1/8	1.10	1.00	.90
BPA-1505	4 x 6	1/8	1.20	1.10	.95
BPA-1506	4 x 8	1/8	1.40	1.25	1.10
BPA-1532	4 x 17	1/4	1.40	1.25	1.10
BPA-1507	4½ x 8	3/16	1.50	1.35	1.20
BPA-1589	5 x 7	1/8	1.25	1.15	1.00
BPA-1508	5 x 9	3/16	1.25	1.15	1.00
BPA-1590	5 x 9½	1/8	1.25	1.15	1.00
BPA-1591	5 x 10	1/4	1.25	1.15	1.00
BPA-1509	5 x 13	1/4	2.05	1.85	1.65
BPA-1510	5 x 13½	1/4	2.05	1.85	1.65
BPA-1511	5½ x 5½	1/8	1.25	1.15	1.00
BPA-1512	5½ x 9½	3/16	1.40	1.25	1.10
BPA-1513	6 x 8	3/16	1.50	1.35	1.20
BPA-1514	6 x 14	5/16	2.05	1.85	1.65
BPA-1515	6 x 17	3/8	2.35	2.10	1.90
BPA-1592	7 x 7	3/16	1.25	1.15	1.00
BPA-1593	7 x 9	1/4	1.90	1.70	1.50
BPA-1594	7 x 11	1/4	1.50	1.35	1.20
BPA-1595	7 x 12	5/16	1.75	1.60	1.40
BPA-1596	7 x 13	1/2	2.05	1.85	1.65
BPA-1516	7 x 15	1/2	2.20	2.00	1.75
BPA-1517	7 x 17	1/2	2.20	2.00	1.75
BPA-1518	8 x 10	1/4	2.10	1.90	1.70
BPA-1519	8 x 12	3/8	2.50	2.25	2.00
BPA-1520	8 x 17	1/2	2.60	2.35	2.10
BPA-1521	8½ x 15	1/2	3.15	2.85	2.50
BPA-1522	9 x 15	1/2	3.20	2.90	2.55
BPA-1523	10 x 12	1/2	2.50	2.25	2.00
BPA-1524	10 x 14	1/2	2.50	2.25	2.00
BPA-1597	10 x 17	5/8	2.50	2.25	2.00
BPA-1525	10 x 23	7/8	3.70	3.35	2.95
BPA-1526	11 x 17	3/4	2.65	2.40	2.10
BPA-1527	12 x 12	5/8	2.65	2.40	2.10
BPA-1528	12 x 17	3/4	3.40	3.05	2.70
BPA-1598	13 x 17	7/8	3.60	3.25	2.90
BPA-1529	14 x 17	15/16	3.60	3.25	2.90
BPA-1530	15 x 17	1	4.85	4.35	3.90
BPA-1531	17 x 17	1 1/16	4.95	4.45	3.95

STEEL CHASSIS BOTTOM PLATES

BLACK RINKLETEX FINISH

Bud No.	Fits Chassis Size, Inches W. x L.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
BP-1069	4 x 17	5/8	$1.85	$1.65	$1.50
BP-705	5 x 7	3/8	1.35	1.20	1.10
BP-680	5 x 9½	3/8	1.50	1.35	1.20
BP-536	5 x 10	1/2	1.65	1.50	1.30
BP-685	5 x 13½	5/8	1.80	1.60	1.45
BP-681	7 x 7	1/2	2.45	2.20	1.95
BP-682	7 x 9	5/8	2.35	2.10	1.90
BP-683	7 x 11	3/4	2.35	2.10	1.90
BP-537	7 x 12	3/4	2.55	2.30	2.05
BP-684	7 x 13	3/4	2.35	2.10	1.90
BP-686	7 x 17	1 1/8	2.00	1.80	1.60
BP-707	8 x 10	5/8	1.85	1.65	1.50
BP-709	8 x 12	7/8	2.45	2.20	1.95
BP-687	8 x 17	1 1/4	2.35	2.10	1.90
BP-688	10 x 12	1	2.35	2.10	1.90
BP-517	10 x 14	1 1/2	3.15	2.85	2.50
BP-689	10 x 17	1 5/8	2.65	2.40	2.10
BP-690	11 x 17	1 3/4	2.80	2.50	2.25
BP-691	12 x 17	1 7/8	3.15	2.85	2.50
BP-692	13 x 17	2 1/4	3.35	3.00	2.70

ELECTRO-ZINC PLATED

Bud No.	Fits Chassis Size, Inches W. x L.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
BP-1067	4 x 17	5/8	$2.80	$2.50	$2.25
BP-706	5 x 7	3/8	1.55	1.40	1.25
BP-667	5 x 9½	3/8	1.65	1.50	1.30
BP-538	5 x 10	1/2	1.80	1.60	1.45
BP-672	5 x 13½	5/8	2.45	2.20	1.95
BP-668	7 x 7	1/2	2.45	2.20	1.95
BP-669	7 x 9	5/8	2.45	2.20	1.95
BP-670	7 x 11	3/4	2.55	2.30	2.05
BP-539	7 x 12	3/4	2.85	2.55	2.30
BP-671	7 x 13	3/4	2.80	2.50	2.25
BP-673	7 x 17	1 1/8	3.15	2.85	2.50
BP-708	8 x 10	5/8	2.55	2.30	2.05
BP-710	8 x 12	7/8	2.85	2.55	2.30
BP-674	8 x 17	1 1/4	3.35	3.00	2.70
BP-675	10 x 12	1	3.45	3.10	2.75
BP-514	10 x 14	1 1/2	3.35	3.00	2.70
BP-676	10 x 17	1 5/8	3.45	3.10	2.75
BP-677	11 x 17	1 3/4	3.45	3.10	2.75
BP-678	12 x 17	1 7/8	4.35	3.90	3.50
BP-679	13 x 17	2 1/4	4.85	4.35	3.90

537X-75A

VLCHEK PLASTIC BOXES

Sturdy, clear plastic storage boxes ideal for small parts storage. Crystal clear polystyrene construction permits you to see the interior for easy selection. Seven standard sizes listed available with many different compartment arrangements to suit your requirements. Hinged top unless otherwise noted. Vlchek boxes are made in 14 standard sizes, with 51 different compartment arrangements. Other sizes and styles with approximately 1,000 compartment arrangements available on special order.

Vlchek No.	Compartments	Size, Inches	Net Each
P618	18 small sections	11 x 6¾ x 1¾	$2.19
P613	10 small, 2 med., 1 big	11 x 6¾ x 1¾	2.19
P612	6 small, 6 medium	11 x 6¾ x 1¾	2.19
P601	Not divided	11 x 6¾ x 1¾	2.10
P200	18 small sections	8¼ x 4½ x 1⅜	.95
P201	6 small, 4 med., 2 lge.	8¼ x 4½ x 1⅜	.95
P209*	7 small, 1 med., 1 big	8¼ x 4½ x 1⅜	.95
P202	2 small, 2 med., 3 lge.	8¼ x 4½ x 1⅜	.95
P203	6 medium (inline)	8¼ x 4½ x 1⅜	.95
P206	Not divided	8¼ x 4½ x 1⅜	.95
P210	8 small, 1 medium	7 x 3¾ x 1¼	.65
P212	5 medium (2-1-2 arrgmt.)	7 x 3¾ x 1¼	.65
P215	5 medium (inline)	7 x 3¾ x 1¼	.65
P216	Not divided	7 x 3¾ x 1¼	.65
P701	Not divided	7⅛ x 2½ x 1¼	.60
P220	6 small	4⅝ x 3 x 1⅛	.45
P221	4 medium	4⅝ x 3 x 1⅛	.45
P226	Not divided	4⅝ x 3 x 1⅛	.45
P250†	Not divided	6¼ x 4 x 1 11/16	.70
P01†	Not divided	4½ dia. x ⅞	.35

*Illustrated. †Removable cover; not hinged.

OUR STOCKS ARE COMPLETE AND UP TO DATE. WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS.

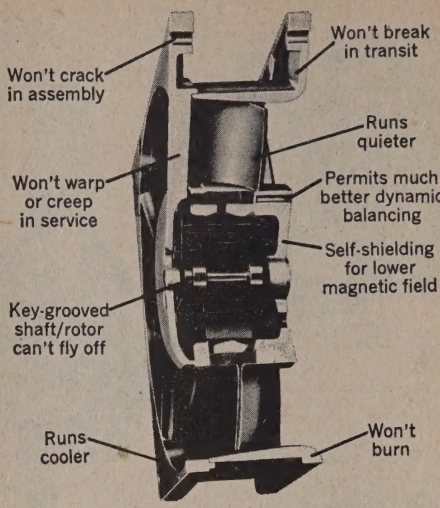
PAMOTOR Miniature Metal Fans

ONE OF THE PURDY GROUP OF COMPANIES

PAMOTOR FANS FOR EFFICIENT COOLING AND HIGH RELIABILITY

- **All metal construction**
- **Low noise level**
- **Long operating life without maintenance**
- **Low operating temperature**

Pamotor fans designed for high reliability and long life. All metal, non-flammable construction provides extra strength and durability. No cracking, creeping or warping to cause lock-up or bearing failure. Special moisture-resistant finish prevents corrosion or other deterioration from high humidity or extreme temperature variations. Pamotor fans will operate dependably throughout life of the equipment they cool. Housings and venturies aerodynamically designed for maximum air flow with minimum air turbulence to provide more efficient airstream characteristics and reduced noise levels. Speech interference level (SIL) is characteristically 5 dB to 10 dB below that of competitive designs with comparable air flow.



All-metal construction —nine ways better!

PENTAFLOW™ MINIATURE FANS

- **Premium grade**
- **5 year warranty**

For custom-designed professional-grade instrumentation and equipment; in permanently installed systems requiring optimum performance and absolute dependability for many years; field-replacements or retrofit units for original-equipment fans that have proved to be unreliable, too noisy or inefficient.

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Air Flow cfm	SIL dB	Nominal Size, Inches
4500P	115	50/60	115	37.5	4½ x 4½ x 1½
4600P	115	50/60	120	39.8	4½ x 4½ x 1½
8500P	115	50/60	43	28.8	3⅛ x 3⅛ x 1½*

*Standard mounting dimensions for EIA 3½" rack panels.

WEIGHT AND PRICING

Pamotor Number	Wt., Oz.	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
4500P	20	$25.20	$22.50	$20.70	$19.60	$18.65
4600P	20	26.15	23.45	21.50	20.40	19.40
8500P	18½	25.40	22.70	20.85	19.75	18.75

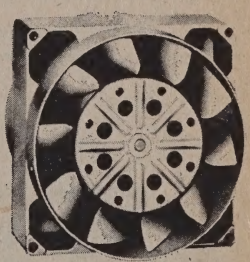
Pentaflow

INDUCTION-TYPE GENERAL PURPOSE FANS

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Cap. μF	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB
900	24–42	50/60	5.6	2.5	25–34	1750*	24*
1300	220	50	2.0	26	110	3400	43
2000	115	60	4.0	25	130	3500	41.6
2050	220	50	2.0	26	116	2900	41.6
2110	115	400	0.5	30	135	3720	50
3050	220	50	1.0	14	58	2760	33.4

*At 24 VAC.

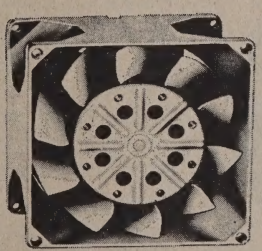


Series 1000A-1500

SIZE, WEIGHT AND PRICING

Following pricing does not include the cost of applicable capacitor where required. See below for Pamotor capacitor number and pricing.

Pamotor Number	Size, Inches	Wt., Lbs.	Net Each, Lots of		
			1-9	10-24	25-49
900	3 dia. x 1½ d.	⅜	$16.85	$15.20	$13.65
1300	4½ sq. x 2 d.	2⅝	31.25	28.20	25.35
2000	4½ sq. x 2 d.	2 1/16	31.25	28.20	25.35
2050	4½ sq. x 2 d.	2 1/16	31.25	28.20	25.35
2110	4½ sq. x 2 d.	2	64.60	58.25	52.35
3050	3½ sq. x 2 d.	1 3/16	36.35	32.80	29.45



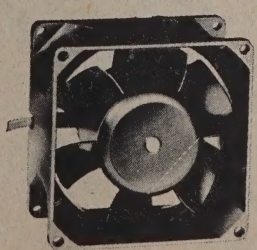
Series 2000-2500

Series 900

CAPACITORS FOR INDUCTION-TYPE FANS

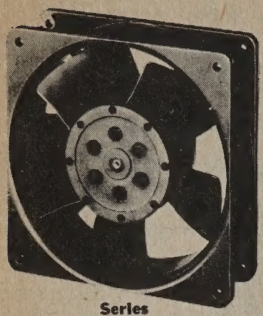
Capacitors supplied are either Sprague oval can type or German stud mount (final suffix **G**). When ordering 4 μF or 6 μF capacitors, specify desired type.

Pamotor Number	For Models	Cap. μF	Net Each, Lots of		
			1-9	10-24	25-49
1005	2000, 3000	4.0	$3.45	$3.15	$2.80
1005G	2000, 3000	4.0	5.25	4.95	4.65
1006	1300, 2050	2.0	3.45	3.15	2.80
1009	3050	1.0	2.80	2.50	2.35
1009G	3050	1.0	3.65	3.30	3.20
1010	1110, 2110	0.5	2.80	2.50	2.35
1011	900	5.6	2.20	2.00	1.80

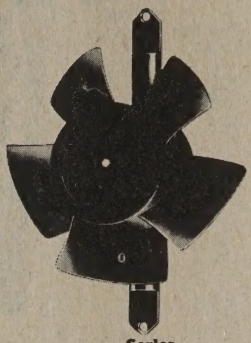


Series 3000

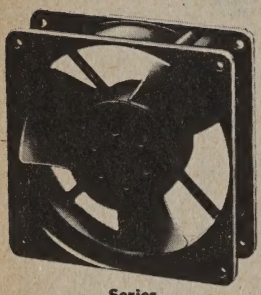
Miniature Metal Fans



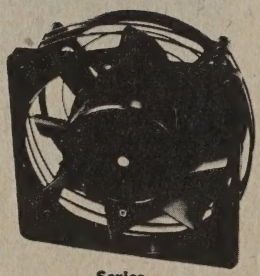
Series 4500



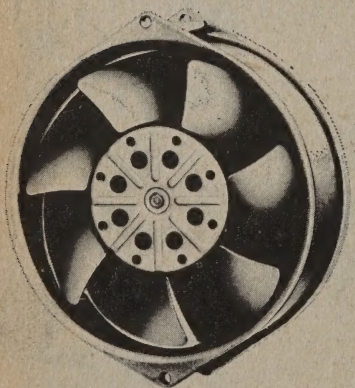
Series 4700



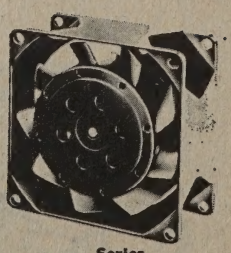
Series 4800



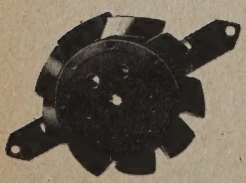
Series 5500



Series 7500



Series 8500C



Series 8700

SHADED-POLE TYPE GENERAL PURPOSE FANS

TYPES AND SPECIFICATIONS

All models are available in 220 V 50/60 Hz versions.

Pamotor No.	Voltage VAC	Frequency Hz	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB	Size, Inches
2500S	115	60	27	115	3300	45.4	
2550S	220	50	27	95	2800	45.4	
4550C	115	60	19	115	2900	37.5	4½ sq. x 1½ d.
4506*	115	60	19	115	2900	37.5	
4556*	230	50	18	115	2900	37.5	
4600	115	60	20	120	3100	39.8	4½ sq. x 1½ d.
4650	220	50	18	103	2650	39.8	
4700†	115	60	20	65	2800	37	4⅛ dia. x 1½ d.
4800	115	50/60	10	70	1900	18	4½ sq. x 1½ d.
5500S	115	60	40	140	3250	41.8	4½ sq. x 2 d.
	115	50	43	118	2750	41.8	
7500S	115	60	40	265	3300	40.6	6 dia. x 2 d.
7506*	115	60	40	265	3300	40.6	
7550S	230	50	38	265	3250	40.5	6 dia. x 2 d.
7556*	230	50	38	265	3250	40.6	
8500C	115	60	13	43	3200	28.8	3⅛ sq. x 1½ d.‡
8506*	115	60	13	43	3200	28.8	
8550	230	50	14	43	3200	28.8	3⅛ sq. x 1½ d.‡
8556*	230	50	14	43	3200	28.8	

*High-temperature, ball-bearing versions. †Without venturi; saves space and weight when equipment cooled serves as housing. ‡Standard mounting dimensions for EIA 3½" rack panels.

WEIGHT AND PRICING

Pamotor Number	Wt., Lbs.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
2500S	2 1/16	$29.35	$26.25	$24.10	$22.85	$21.75
2550S	2 1/16	29.35	26.25	24.10	22.85	21.75
4500C	1¼	17.40	15.60	14.30	13.55	12.90
4506A	1¼	30.85	27.60	25.35	23.95	22.85
4556	1¼	30.85	27.60	25.35	23.95	22.85
4600	1 5/16	20.40	18.30	16.80	15.90	15.10
4650	1 5/16	20.40	18.30	16.80	15.90	15.10
4700	1	17.40	15.60	14.30	13.55	12.90
4800A	1¼	19.35	17.30	15.90	14.95	14.30
5500S	2 3/16	36.95	33.20	30.45	28.90	27.45
7500S	2¾	43.75	39.15	35.95	34.10	32.40
7506	2¾	68.85	61.65	56.55	53.65	50.95
7550S	2¾	43.75	39.15	35.95	34.10	32.40
7556	2¾	68.85	61.65	56.55	53.65	50.95
8500C	1 3/16	19.60	17.55	16.10	15.25	14.50
8506	1 3/16	31.60	28.30	25.95	24.60	23.40
8550C	1 3/16	19.60	17.55	16.10	15.25	14.50
8556	1 3/16	31.60	28.30	25.95	24.60	23.40

ACCESSORIES

Pamotor Number	Description	For Series	Net, 1-499
5501	Brackets (pair)	2000, 2110, 2500C,	$0.70
5502	Filter	4500C, 4600C, 5500S	2.20
5503	Screen assembly		3.80
5504	Fingerguards	As above, also 4700	2.05
5505	Plug and cord	4500C, 4600C, 4800	.85
5506	Fingerguards	7500S	3.70
5507	Fingerguards	1000A, 1110, 1300, 1500	1.30
5508	Fingerguards	8500C	1.45
5509	Air straightener	7500S	4.50
5511	Adapter ring	7500S	2.50

GC ELECTRONICS

Chemicals and Cleaners

Most chemicals come in 2-oz. wide mouth bottles for easy use. The plastic cap has a brush attached. Write for prices and information on larger containers, also available.

CEMENTS

G-C Epox Cement—Super-strong adhesive cures at room temperature. Bonds metal, ceramic, glass, plastic, etc. with 3000 lbs./sq. in. strength. Resistant to virtually any environment. Good dielectric property. Mix from kit of 2 tubes in equal amounts; 3 oz.
No. 346—Net Each Kit.....**$2.48**

G-C Epoxy Glue—Super grip, fast set glue is specified by NASA for use in space program. Resists acids, alkali, grease, gas, water, etc. Mix from two tubes in equal parts, hardens in 5 min. under 150° F heat lamp. Kit of 2 tubes, approx. 4-oz.
No. 347—Net Each Kit.....**$3.03**

G-C GR-R-RIP—All new rapid bonding adhesive that makes short work of repair jobs. Sets in seconds; effective on most surfaces: Metal, plastic, rubber and porcelain.
No. 10-115—Net Each.....**$1.99**

G-C Quik-Stik—Epoxide adhesive permanently bonds ceramic, glass, plastic, wood or metal in 5 minutes. Ideal for almost any kind of repairing.
No. 10-114—Net Each.....**$1.49**

G-C Radio Service Cement—The best cement for repairing radios and torn speaker cones or replacing torn cones. Vibrationproof, waterproof and fast drying. Non-shrinking. Use also on plastic, metal, wood, etc.
No. 30-2—2-oz. Net Each.....**$0.83**
No. 30-4—4-oz. Net Each..... **1.09**
No. 34-2-S—Tube. Net Each..... **.83**

G-C Bakelite® Cement—The only cement for use on phenolics. Use on knobs, cabinets, panels.
No. 32-2—2-oz. Net Each.....**$1.27**

G-C Plastic Cement—For broken plastic cabinets, knobs, dials, and crystal assemblies, grille cloth, etc.
No. 32-2A—2-oz. Net Each.....**$0.83**

G-C Rubber-to-Metal Cement — For cementing dial drives, rubber mountings, gaskets, hose, weather stripping, etc.
No. 35-2—2-oz. Net Each.....**$0.83**

G-C Pliobond—A cold-setting, rubber-like, thermoplastic liquid that dries rapidly to a waterproof, chemically-resistant bond with permanent flexibility and very high strength. Glues all materials.
No. 43-2—2-oz. Net Each.....**$0.83**

G-C Acrylic Cement—For Lucite®, plexiglass, and acrylic materials. Strong, fast drying.
No. 40-2—2-oz. Net Each.....**$0.76**

G-C Ne-O-Prene Cement—For cementing neoprene rubber to neoprene or other products, such as metal, wood, paper, etc. Fast drying.
No. 52-2—2-oz. Net Each.....**$1.21**

G-C "Vinylite" Cement—Thermoplastic cement. Clear plastic cement for use in metals, plastics, paper, leather, etc. Sets on cooling.
No. 58-2—2-oz. Net Each.....**$0.83**

LUBRICANTS

G-C Lube-Rex—Reduces noise by preventing corrosion and prolongs life. Excellent for lubricating bearings, gears etc.
No. 1206-S—2-oz. tube. Net Ea...**$0.83**

G-C Pressurized Lubricating Oil—Ideal for hard to reach trouble spots. Will shoot oil up to six feet. Lubricates moving machinery, gears etc.
No. 10-916—6-oz. aerosol. Net....**$1.18**

G-C Reach-All Pen Oiler—Fine electronic oil for radio and TV servicing. Oil meets MIL-L-6085A specs. Tube extends and retracts; dispenses a drop or fraction. Best suited for gears, guns, fishing reels etc.
No. 984—Pen oiler. Net Each....**$1.38**

G-C Contact Burnishing Tool Kit—For servicing of relays, switches. Contains one 2-oz bottle No. 210-2 contact cleaner and burnishing tool.
No. 9339—Net Each.....**$1.21**

LUBRICANTS (CONT'D)

G-C Sili-Spray—High quality silicon lubricant. Applies light lubricant film that lasts and lasts, won't leave residue build-up. Can be used in home, office, or workshop.
No. 10-600—6-oz. aerosol. Net Each.....**$1.53**

G-C Moisture Remover—Special ingredients remove moisture, deposit a thin lubricating film preventing further oxidation.
No. 10-700—16-oz. aerosol. Net Each.....**$2.38**

10-600

CLEANERS

G-C Chloro-Kleen—Non-toxic powerful solvent quickly dissolves grease, dirt, oils, tar and waxes. Contains Chlorothene®.
No. 213-G—1-gallon. Net per gal..**$11.00**

G-C Audio-Video Magnetic Tape Head Cleaner—Removes dirt and oxide build-up, won't harm tape or paint finish. May be used on running tape. Comes with 6" spray extension.
No. 10-620—16-oz. spray can. Net.**$2.82**

G-C Electronic Dry Cleaner—A "dry" cleaner for use on contacts, relays and other electronic devices where residual, oily deposits are undesirable. Also an excellent degreaser and a general solvent for inks and gummy deposits on electrical or mechanical devices, such as typewriters, presses, etc. Non-flammable; does not contain carbon tet.
No. 8669—16-oz. Net Each.....**$2.53**

G-C Super Freeze Mist—Enables serviceman to pinpoint bad capacitors, transistors, and oxidized joints by cooling components. Leaves no liquid residue; non-toxic, noninflammable. Cools three times faster than other coolers.
No. 8668—6-oz. Net Each.....**$1.37**
No. 10-702—15-oz. aerosol. Net... **2.75**

G-C Relay-Kleen Contact Cleaner—"Dry" cleaner for relays and contacts. Leaves no oily residual deposit. Also a degreaser and solvent. Noninflammable; contains no carbon tet. In spray can with extension tube for hard-to-reach places.
No. 8682-16—16-oz. Net Each....**$3.84**

G-C Super Contact Cleaner—Heavy duty cleaner formulated to provide protection on all electrical and electronic contacts in switches, tuners, and relays. Preserving and lubricating residue lasts longer than that of any other cleaner.
No. 8680—6-oz. Net Each.....**$1.97**

G-C "Red" Electronic Contact Cleaner—All-purpose lubricant cleaner for contacts. Dissolves dirt, removes corrosion and leaves a protective film.
No. 210-2—2-oz. Net Each.....**$0.83**

G-C Carbon Control Cleaner—Cleans and eliminates noise in carbon volume controls without taking apart. Special applicator. Just squirt cleaner along shaft.
No. 212-2—2-oz. Net Each.....**$0.83**

DOPES, INSULATING LIQUIDS

G-C Liquid Tape—For hard-to-get-at places for high voltage insulation. Use also for anti-rust coating, weatherproofing, etc.
No. 176-2—2-oz. bottle. Net Each**$1.32**
No. 176-16—16-oz. bottle. Net Ea. **7.98**

G-C Liquidope—Clear fast drying. Gives excellent support to coil forms. Non-inductive, all wave coil dope. Use G-C No. 28 for thinner.
No. 36-2—2-oz. Net Each.....**$0.85**

G-C Q-Dope—Liquid polystyrene low-loss coil dope for RF, UHF, and VHF components. Will not change circuit values. Also a polystyrene cement.
No. 37-2—2-oz. Net Each.....**$0.76**

G-C TV Tube Koat—Fast-drying conductive coating for recoating the outside of TV picture tubes that are scratched or peeling. Also used to coat the inside of TV cabinets for prevention of high voltage leaks and static discharge. Ideal for coating at points where ground clips contact tube.
No. 49-2—2-oz. bottle. Net Each..**$0.99**
No. 49-12—16-oz. spray can. Net. **2.70**

DOPES, INSULATING LIQUIDS (CONT'D)

G-C TV High Voltage Corona Dope—For preventing corona shorts in high voltage circuits in TV sets. Easy to apply, air drying. Use on any high voltage circuit.
No. 50-2—2-oz. Net Each.....**$1.05**

G-C Red Glpt Insulating Varnish—Most common coating for solder connections, anti-corona and high voltage points. Heat resistant to 300° F.
No. 90-2—2-oz. Net Each.....**$0.88**

CHEMICAL SPRAY BOMBS

In 6-oz. aerosol spray cans.
G-C K-27 Print-Kote—TV silicone resin for printed circuits.
No. 14-6—Clear. Net Each.....**$3.03**

G-C De-Ox-Id®—Electrical contact cleaner for silver, detent, and radar contacts.
No. 19-6—Net Each.....**$2.48**

G-C Spra-Kleen—Combination cleaner and lubricant for electrical contacts.
No. 8666-16—16-oz. aerosol. Net..**$2.35**

SOLVENTS AND THINNERS

G-C Strip-X—Strips enamel from magnet wire. Just dip wire into and wipe off insulation—cleaned, ready for soldering.
No. 26-2—2-oz. Net Each.....**$1.05**

G-C Cement Thinner—Best thinner for G-C Service Cement.
No. 28-2—2-oz. Net Each.....**$0.72**

G-C Lacquer Thinner—Thins all lacquer, lacquer enamels, telephone black and gray, etc.
No. 29-2—2-oz. Net Each.....**$0.72**

G-C Radio Service Solvent—Best thinner for all cements—dissolves cement off old cones and speakers.
No. 31-2—2-oz. Net Each.....**$0.72**
No. 31-8—8-oz. Net Each..... **1.38**

G-C Q-Dope Thinner—Solvent for Q-Dope and polystyrene materials. Clear water white solvent.
No. 41-2—2-oz. Net Each.....**$0.72**

TUNER CLEANERS

G-C Tuner Bath—Cleanses and degreases tuners. Does not harm plastics and will not detune.
No. 10-901—16-oz. spray can. Net.**$2.77**

G-C Magic Vista Golden Foam Tuner Cleaner—Puts life in color and black and white TV tuners. Cleans, polishes and lubricates tuner contacts. Safe for plastics.
No. 10-800—8-oz. spray can. Net..**$2.52**

SPRA-KOAT CHEMICALS

All Spra-Koat products are supplied in 16-oz. aerosol spray cans.

G-C Zero-Mist—Instantly located defective circuit components of an intermittent nature due to temperature change. Checks components in operation without removal.
No. 8667—Net Each.....**$2.63**

G-C Corona Dope Spra-Koat—Air-drying corona dope for TV hi-voltage work.
No. 47-12—Net Each.....**$3.58**

G-C Koloid Clear Acrylic—Acrylic ester resin compound for high frequency work.
No. 8665—Net Each.....**$2.00**

G-C Koloid K-29 Hi-Voltage Resin—Air-drying clear resin spray for insulating high voltage points or parts.
No. 9123—Net Each.....**$2.50**

HEAT SINK COMPOUNDS

G-C DC-Z9 Silicone Heat Sink Compound—Lowers overall temp. level of electronic devices, seals between transistors, diodes etc. and compound will not dry out or harden. Oxides suspended in silicone dissipate "hot spots."
No. 8109-S—1-oz. tube. Net Each.**$3.25**

G-C Transistor Z5 Silicone Compound—Maintains efficient transfer of heat from transistor to chassis such as in auto radios. Applied to original installation and whenever transistors are replaced.
No. 8101-S—1-oz. tube. Net Each.**$2.92**

®Trademark: Bakelite of Bakelite Corp.; Lucite of DuPont; De-Ox-Id of De-Ox-Id Labs, Chlorothene NU of Dow Chemical Co.

KRYLON SPRAY-ON ENAMELS AND CHEMICALS

No. 1302 Crystal-Clear Spray—Prevents pitting and rusting of antenna; reduces corona and arcing; salt-spray resistant. Dielectric strength, 450–800 V/mil, short time, ⅛" thickness; dielectric constant, 3.2 to 3.7 (1,000 Hz); electrical resistance, 10^{16} ohms/cm². In pint size spray can.
Net Each, 1–11 ..... $ 2.49
Net per Dozen 17.93

SPRAY ENAMELS

Weatherproof and waterproof. Excellent adhesion. Guaranteed non-clogging valve. Available in the following colors:

Krylon No.	Color	Krylon No.	Color
1403*	Dull Aluminum	1901*	Regal Blue
1501	Glossy White	1902*	Baby Blue
1502	Flat White	1903*	Metallic Blue
1503*	Antique White	2001*	Hunter Green
1601	Glossy Black	2002*	Pastel Aqua
1602	Flat Black	2101	Cherry Red
1603*	Charcoal Gray	2201*	Bright Copper
1604*	Shadow Gray	2202*	Brass
1605*	Dove Gray	2301*	O.D. Khaki
1701	Bright Gold	2401*	Sunset Orange
1801*	Chrome Yellow	2501*	Leather Brown
1802*	Pastel Yellow	2504*	Biege
1809*	School Bus Yellow		

*Available only in pint size spray can.

Pint Size Spray Can—Net Each, 1–11 ..... $ 2.49
Net per Dozen 17.93

8 Oz. Spray Can—Add **A** to Krylon number.
Net Each, 1–11 ..... .73
Net per Dozen 7.80

GLOWING FLUORESCENT SPRAY PAINT

For usé on paper, wood, cloth, glass, metal, styrofoam and some plastics. Dry in minutes. Glows in daylight. Made to MIL-P-21600 (AER) specifications.

Krylon No.	Color	Krylon No.	Color
3101	Red Orange	3105	Cerise
3102	Yellow Orange	3106	Green
3103	Sunset Gold	3107	Blue
3104	Lemon Yellow		

Pint Size Spray Can—Net Each, 1–11 ..... $ 3.39
Net per Dozen 24.41

HIGH-HEAT ALUMINUM SPRAY PAINT

Thick paint formulation for high heat conditions. Withstands temperatures up to 600° F for long periods, up to 1,200° F for intermittent periods. Use for touching up steam pipes, boilers, furnaces, ovens, radiators, motors or other surfaces painted with industrial aluminum. Fast drying.
Krylon No. 1402 Pint Size Spray Can—Net Each, 1–11 .$ 3.39
Net per Dozen 24.41

RED INSULATING VARNISH

Penetrates through multiple layers of taped coils, increasing dielectric strength and leaving a tough, flexible film that resists oil, water, acid and alkalis. Dielectric Strength: Dry, 1,000 volts/mil; wet, 700 volts/mil. Film offers high adhesion characteristics, exceptional arc resistance and nontracking properties. Use on stator windings, armatures, coils, commutator rings, bus-bars, etc.
Krylon No. 7004 Pint Size Spray Can—Net Each, 1–11 .$ 2.49
Net per Dozen 17.93

HIDE-a-MARK® SPRAY COAT

Covers old stencils, crayon markings, etc. Makes drums, crates, cartons reusable. Dries rapidly, allows new stenciling almost immediately. Ready to use, no brush, no muss, no fuss.
Krylon No. 3007 16 Oz. Spray Can—Net Each, 1–11 ...$ 2.49
Net per Dozen 17.93

RUST MAGIC® METAL PRIMER

Penetrates rust layers in minutes to form a tough bonded union that stops rust and prevents further corrosive action. Dries to the touch in 20 minutes; recoatable in two hours. May be top-coated with most finishes: Krylon spray paint, enamel, vinyl, epoxy, acrylic, etc.
Krylon No. 1317 Pint Size Spray Can—Net Each, 1–11 .$ 2.49
Net per Dozen 17.93

ZINC CHROMATE METAL PRIMERS

Always ready spray dispensers of rust inhibiting zinc chromate primer. Indispensable wherever metal priming is necessary. Dries fast. In pint size spray can.
Krylon No. 1319 (Yellow) or **1320** (Green)—Net, 1–11 .$ 2.49
Net per Dozen 17.93

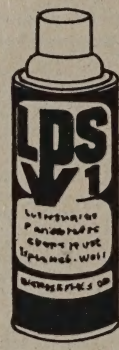
TUNER CLEANER

Removes dirt and gummy deposits from electrical contacts. Provides a non-drying film which lubricates contact surfaces. Prevents oxidation, corrosion and will not harm plastics known to Krylon laboratory.
Krylon No. 1333 16 Oz. Spray Can—Net Each, 1–11 ...$ 3.39
Net per Dozen 24.41

ELECTRIC MOTOR CLEANER

Instantly penetrates, dissolves and cleans grease, oil and dirt from motors, generators, fans, etc. Evaporates completely; no residue. Harmless to insulation or painted surfaces. Contains no carbon tet.
Krylon No. 1327 Pint Size Spray Can—Net Each, 1–11 .$ 2.49
Net per Dozen 17.93

LPS METAL PROTECTORS, LUBRICANTS, PENETRANTS AND RUST INHIBITORS



Lubricates, penetrates and stops rust and corrosion on metal parts. Also water displacing applications. Applied by spraying, dipping, brush or swab. Harmless to rubber, plastics, paint or finishes; contains no chlorinated solvents or silicones. Confirm to MIL-C-23411 and C-16173D and passed Lawrence Hydrogen Embrittlement Test for Safety on high strength steels.

LPS NO. 1 LIGHT LUBRICANT-PENETRANT

Powerful, effective lubricant can be applied to even the most delicate mechanisms. Will not pick up dust or dirt. Leaves a clean, non-sticky (.0001") film that dries wet parts and electrical systems in seconds; stops rust and corrosion in manufacture, storage and shipment. Loosens frozen parts fast. Non-toxic, non-tacky film can be painted, plated, soldered, welded and printed over after 24 to 48 hours.
LPS No. 1-2—Aerosol 2-oz. can. List $1.25
LPS No. 1-7—Aerosol 7-oz. can. List 1.54
LPS No. 1-16—Aerosol 16-oz. can. List .. 2.59

LPS NO. 2 MEDIUM LUBRICANT-PENETRANT

Forms oily (.0001") film that protects metals from rust and corrosion outdoors for a year and parts in storage for years. Displaces moisture; loosens frozen parts or dries out wet parts in seconds. Excellent lubricant and penetrant. Recommended where a wet coating, lubricant, rust inhibitor is needed; e.g., in flooded machinery or electrical equipment. Can be welded over safely.
LPS No. 2-7—Aerosol 7-oz. can. List Price $1.86
LPS No. 2-16—Aerosol 16-oz. can. List Price 3.03

LPS NO. 3 HEAVY DUTY LUBRICANT, RUST INHIBITOR

Forms a transparent, waxy (.0002") film that lubricates and protects metals from rust and corrosion for 2 years or more under severe outdoor, moist, salty and chemical conditions. Displaces moisture and provides excellent penetrating lubricant. Finest anti-seize lubricant and rust inhibitor for chain and cable conveyors. Widely used and recommended for aircraft, ships, railroads, chemical plants, offshore rigs, dairies, breweries, packing plants, overseas shipments, etc.
LPS No. 3-2—Aerosol 2-oz. can. List Price $1.25
LPS No. 3-7—Aerosol 7-oz. can. List Price 1.86
LPS No. 3-16—Aerosol 16-oz. can. List Price 3.03

TECHNICAL INFORMATION

Properties	LPS No. 1	LPS No. 2	LPS No. 3
Specific Gravity	.800	.804	.833
Flash Point (Tagablieu Open Cup)	180° F	145° F	155° F
Nonvolatiles	22%	30%	40%
Viscosity	27 (72° F)	35 (100° F)	48 (100° F)
Pour Point	−100° F	−35° F	0° F
Boiling Point	300° F	300° F	.....
Dissipation Factor	.02	.005	.005
Dielectric Constant (ASTM-877)	2.11	1.04	.95
Dielectric Strength (ASTM D-150) Breakdown Volts .1" gap	32,000	33,230	35,090

Ersin Multicore Solders and Flux

5-CORE WIRE SOLDERS

5-Core Construction: Five separate cores of flux. Only an ultra-thin wall of solder separates flux and work for instant wetting, using less solder. 5-cores also eliminates flux voids, found in single cored solder, and provides closer controlled ratio of flux to solder. **Ersin Rosin Flux:** Extra active, non-corrosive, non-hygroscopic and non-conductive. Vigorous fluxing action, yet residue need not be removed after soldering. Non-toxic in use and free of objectionable odors.

STANDARD ALLOYS AND GAUGES

Most commonly used solders. Conform to latest QQ-S-571.

Alloy	Gauge	Net per Pound 1-19	20-79	80 Up
SN40 40/60	14 16 18	Prices On Request		
SN50 50/50	14 16 18			
SN60 60/40	14 16 18 19 20 21 22 24			
SN63 63/67	16 18 20 22			

NEEDLE FINE GAUGES

Thinnest wire solder. Available in ½ lb. reels only.

Multicore Number	Net per Reel .028″ 22 swg	.022″ 24 swg	.014″ 28 swg	.010″ 32 swg	.009″ 34 swg
SN60 SN63	Prices On Request				

SILVER-ADDED EUTECTIC ALLOYS

Type SN62 meets the latest QQ-S-571. **Melting Point:** SN62, 354° F; HMP, 565° F; TLC, 293° F. **Alloy Content:** SN62, 2% silver; HMP, 1.5% silver; TLC, 17% cadmium.

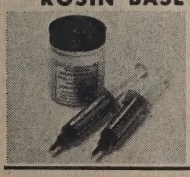
Multicore Number	Net per Pound 16 swg	18 swg	20 swg	21 swg	24 swg
SN62 HMP TLC	Prices On Request				

SAVBIT ALLOYS

Copper-added alloy formulated to overcome rapid pitting and wear of copper and iron-clad soldering iron tips. Tip life prolonged up to 10 times. Prevents solution of fine copper wires and thin films.

Gauge	Net per Pound 1-19 lbs.	20-79 lbs.	80 Up lbs.
14 16 18 20 22 24	Prices On Request		

ROSIN BASE SOLDER CREAM (300 MESH)



Homogeneous mixture of finely graded prealloyed solder powder suspended in thixotropic, special non-corrosive, non-conductive, activated rosin base flux. Requires no stirring prior to use; does not split during soldering or leave solder globules in flux after soldering. Residue is easily removable with Multicore PC.80 solvent. Soldering temperature, 500° F.

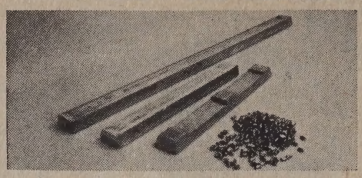
Multicore Number	Soldering Temp. °F	Net Each 25 Gram Syringe	500 Gram Jar
XM27330 (SN62/36/2AG)	464	Prices On Request	
XM27298 (SN60)	482		
XM27328 (SN96/4AG)	536		

DISPENSER AND SERVICEMAN'S PAKS

Economical, easy to handle and store, flameproof solder packaging of 60/40 and Savbit, Arax and Alu-Sol. Ideal for servicemen, hobbyists, lab technicians and small maintenance shops.

Multicore No.	Alloy	Gauge	Lgth., Ft.	Net Each
EZ100	60/40	18	14	$0.79
PC115	60/40	22	21	.79
SR120	60/40	19	40	1.39
SV130	Savbit	18	14	.79
AR140	Acid core	18	7	.79
AL150	Alu-Sol	18	10	.79

HIGH PURITY BAR SOLDERS



Finest quality, conforming to QQ-S-571. Ultra high purity. Pellets in most alloys are available, for initial melts of solder baths and pots.

Multicore Number	Net per Pound 1–27 lbs. *	†	‡	28 lbs. Up *	†	‡
SN50 SN60 SN63	Prices On Request					

*Extrusol® Extruded type, skin wrapped 2 lbs. per package. †Multi-Pure® Cast Bar, 1 lb. package. ‡Pellets, 7 lb. package.

FLUXES AND CHEMICALS

ROSIN BASE FLUXES

Family of fluxes formulated to meet all requirements, with emphasis on PC production soldering equipment. Exceptionally fast acting and aggressive, yet non-corrosive and non-conductive.

Multicore Number	Type	Characteristics	Solids %	Price Code
0360*	Non-activated (R)	MIL-F-14256	38	A
5381	Mildly activated (RMA)	MIL-F-14256	38	A
PC.25	Activated (RA)	0.5% Halide	25	A
366A	Activated (RA)	1.0% Halide	25	A
4370*	Activated (RA)	0.4% Halide	38	A
366	Activated (RA)	1.0% Halide	38	A

*General applications; all others for foam and general applications.

ORGANIC/INORGANIC ACID FLUXES

Multicore Number	Type	Application	Price Code
PC.101	Organic acid—water base	Foam, general	A
PC.112	Organic acid—solvent base	Foam, general	B
Arax	Inorganic acid—water base	Dip—brush	D

CHEMICALS

Multicore No. PC.80—Solvent cleaner and rosin flux remover. Consists of blend of organic, polar and non-polar solvents. Removes organic contaminants, rosin residues and ionic materials. **Price Code B.**

Multicore No. PC.2—Copper cleaner. Acidic, water soluble. Dissolves copper tarnish. **Price Code D.**

Multicore No. PC.10—Surface preservative (16% solids). Rosin base coated. Used for preserving surface solderability. **Price Code A.**

Multicore No. PC.43—Dross inhibitor. Chemically active heat stable liquid. Prevents dross formation on molten solder bath surfaces. **Price Code D.**

Multicore No. PC.70—Flux thinner. Compatible solvent blend. Replaces evaporated solvents for all rosin fluxes. **Price Code C.**

Multicore No. PC.52—Conformal coating (25% solids). Spray or brush applied; can do solder repairs without removing. Permanent protection for electronic hardware. **Price Code B.**

PRICE CODES

Code	Net per Pint Quart Gallon	Code	Net per Pint Quart Gallon
A B	Prices On Request	C D	Prices On Request

NEW ALU-SOL® ALUMINUM SOLDERING ALLOY

Cored solder easily solders aluminum and aluminum alloys, while being highly resistant to electromechanical corrosion. No precleaning or abrasion of oxidized surface is required. Solder has 4-core construction and leaves non-corrosive, non-conductive flux residue. Residue can be easily removed with water. Available in ½ lb. reels.

Gauge	Net per Half Pound ½-19 Lbs.	20 Lbs. Up
14 16 18	Prices On Request	

ARAX® ACID CORED SOLDER

Four-core solder for soldering all metals except aluminum. Arax is a specially formulated organic, water soluble flux capable of removing thick tarnishes and oxides from iron and steel. Substantially reduces spitting; flux residue is mildly corrosive, hygroscopic and should be removed after soldering in warm water.

Price Same As Standard Alloys and Gauges.

KESTER Solder and Flux

KESTER "44" RESIN CORE SOLDER

Revolutionary solder advancement uses a fast-acting, instant-wetting, non-corrosive, non-conductive flux for faster soldering and long-lasting, stronger bond. Available in any size ranging from .005" to .250". Also available for Fed. Spec. QQ-S-571d. Two standard put-ups: 1-lb. and 5-lb. spools; 20 lb. spools available on special order.

Alloy Tin/Lead	Dia. In. (Ga)	Spool of	Net per Spool, Lots of 1-10 Lbs.	11-24 Lbs.	25-49 Lbs.
40/60	.062 (16)	1 lb.	$ 4.95	$ 4.43	$ 3.91
		5 lbs.	24.50	21.90	19.35
	.093 (13)	1 lb.	4.54	4.06	3.58
		5 lbs.	22.40	20.05	17.70
50/50	.062 (16)	1 lb.	5.89	5.27	4.65
		5 lbs.	29.15	26.10	23.05
	.093 (13)	1 lb.	5.53	4.95	4.37
		5 lbs.	27.65	24.50	21.60
60/40	.015 (27)	1 lb.	11.34	10.14	8.95
	.020 (25)	1 lb.	9.38	8.39	7.41
	.025 (23)	1 lb.	7.80	6.92	6.16
	.031 (21)	1 lb.	7.52	6.73	5.94
		5 lbs.	35.70	31.95	28.20
	.040 (19)	1 lb.	7.46	6.68	5.89
		5 lbs.	35.40	31.70	27.95
	.050 (18)	1 lb.	7.22	6.46	5.70
		5 lbs.	34.65	31.00	27.35
	.062 (16)	1 lb.	6.82	6.10	5.38
		5 lbs.	33.80	30.25	26.70
	.093 (13)	1 lb.	6.61	5.91	5.22
		5 lbs.	32.75	29.30	25.85
63/37	.015 (27)	1 lb.	11.52	10.40	9.18
	.020 (25)	1 lb.	9.69	8.67	7.65
	.025 (23)	1 lb.	8.11	7.25	6.40
	.031 (21)	1 lb.	7.82	7.00	6.18
		5 lbs.	37.20	33.30	29.40
	.040 (19)	1 lb.	7.77	6.95	6.13
	.050 (18)	1 lb.	7.52	6.73	5.94
	.062 (16)	1 lb.	7.14	6.39	5.64

KESTER SOLID WIRE SOLDER

For use with external flux, this solder is equal in quality and purity to Kester "44" solder. Always uniform in diameter and alloy. Standard put-ups are 1-lb. and 5-lb. spools; 20-lb. spools and 50-lb. reels also available.

Alloy Tin/Lead	Dia., In. (Ga)	Spool of	Net per Spool, Lots of 1-10 Lbs.	11-24 Lbs.	25-49 Lbs.
40/60	.125 (11)	1 lb.	$ 4.47	$ 4.00	$ 3.53
		5 lbs.	21.95	19.65	17.35
	.062 (16)	1 lb.	4.90	4.38	3.87
		5 lbs.	23.70	21.65	19.10
50/50	.125 (11)	1 lb.	5.45	4.88	4.31
		5 lbs.	26.90	24.05	21.25
	.062 (16)	1 lb.	5.81	5.20	4.59
		5 lbs.	28.80	25.75	22.75
60/40	.062 (16)	1 lb.	6.72	6.01	5.31
		5 lbs.	33.05	29.55	26.10
	.031 (21)	1 lb.	7.41	6.63	5.85
		5 lbs.	35.05	31.35	27.65

KESTER TV-RADIO SOLDER

Improved, practical-wire-size (.062") solder is ideal for servicemen's kit. Compact, easy-to-carry package. Resin core is ideal for everything electrical or electronic.

Kester TV-Radio Solder—Carton of 10 boxes (total weight, 1 lb.). Net Each **$4.07**

BAR SOLDER

Available in all the tin-lead alloys. Uniform distribution of tin/lead alloys provides for more efficient and easy application.

Alloy Tin/Lead	Bar Weight	Net Each, Lots of 1-10 Lbs.	11-24 Lbs.	25-49 Lbs.
30/70	1 lb.	$3.44	$3.07	$2.72
40/60	1 lb.	4.33	3.87	3.42
50/50	1 lb.	5.24	4.69	4.14
60/40	1 lb.	6.16	5.51	4.86
63/37	1 lb.	6.46	5.78	5.10

KESTER PRINTED CIRCUIT BOARD SOLDER

Ideal for printed circuit board repair. 60% tin and 40% lead alloy with KESTER famous "44" Resin flux provide perfect connection all the time.

Kester Printed Circuit Board Solder—Carton of 10 boxes (total weight, 1 lb.). Net Each **$4.93**

Kester 40/60 Acid-Core Solder—1 lb. Spool. Net Each ... **$3.19**
5 lb. Spool, Net per pound **3.15**
20 lb. Spool, Net per pound **3.12**

Kester 50/50 Acid-Core Solder—1 lb. Spool. Net Each ... **3.88**
5 lb. Spool, Net per pound **3.84**

Kester "Metal Mender" Acid Core Solder—40/60 solder in handy display carton of ten 2-oz. boxes. Net Each Carton **$4.07**

Kester Soldering Paste—Display carton of ten 2-oz. cans.
Net per Carton **$2.60**
Net per 1-lb. can **1.14**
Net per 5-lb. can **6.00**

KESTER SOLDERING FLUXES

For use on all metals except aluminum. Remain stable even under extreme conditions. The latest development in practical flux, these efficient formulations meet all manufacturing techniques including specialized assembly, automation, modular techniques, etc. Choice of pint, quart or gallon put-ups; 5-gallon containers also available on request.

Kester Formula No. 1544—Highly activated resin flux, non-corrosive and electrically non-conductive. Probably the most active non-corrosive flux in cored solder.
Net per Pint ..... **$ 3.33**
Net per Quart **4.75**
Net per Gallon **14.52**

Kester Formula No. 1587—Resin-type foaming flux for PC soldering. Non-corrosive, electrically non-conductive and perfectly safe resin formula to military requirements. Net per Pint ... **$ 3.33**
Net per Quart ..... **$4.75** Net per Gallon **14.52**

Kester "Acid Type" Flux—4 oz. plastic bottles have new squeeze tips. Net per pint ..... **$2.85**; Net per Quart **$4.28**
Net per Case (twelve 4 fl. oz. bottles) **9.03**

Kester Stainless Steel Flux—4 oz. plastic bottles with squeeze tips.
Net per Pint ..... **$2.85**; Net per Quart **$4.28**
Net per Case (twelve 4 fl. oz. bottles) **9.50**

Kester Formula No. 5235 Remover—Rosin residue remover dissolves and removes all types rosin or resin flux residues from soldered connections at room or normal temps. Net per Pint **$ 3.33**
Net per Quart ..... **$4.75** Net per Gallon **14.52**

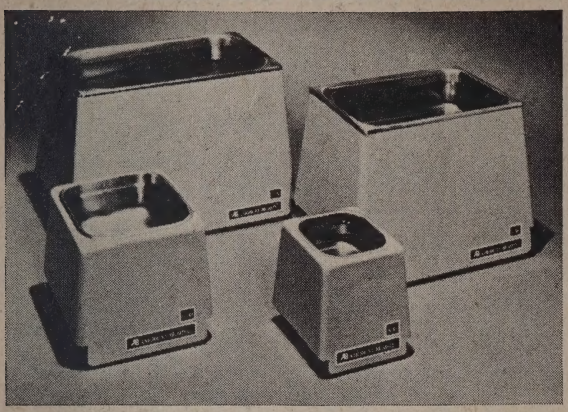
Kester Copper-Nu #5520—Pre-cleaner for cleaning surface prior to soldering. Net per Pint ... **$2.66**; Net per Quart ... **$ 3.99**
Net per Case (twelve 4 fl. oz. bottles) **11.59**

Kester Solder-Nu #5560—Pre-cleaner for solder-plated, tin-plated or very tarnished copper surfaces. Net/Pint ..... **$ 2.66**
Net/Quart **$3.99**; Net/Case (twelve 4 fl. oz. bottles) . **11.59**

561X-75A

Ultrasonic Cleaners, Tools

AMERICAN BEAUTY ULTRASONIC CLEANERS AND ACCESSORIES



ULTRASONIC CLEANERS

Cleans almost any kind of small item or assembly. Best suited for potentiometers, switches, wafers, circuit boards, vacuum tube elements, bearing assemblies, airbrush nozzles, intricate glassware, camera parts, lenses, etc. High frequency sound waves, 50–55,000 Hz, create millions of microscopic bubbles; these expand and collapse, acting like tiny scrub brushes, blasting away residues and dirt accumulation. Special features include: Compact size; simple operation; single on-off switch with pilot light; adjustment-free performance; stainless steel tank with rounded corners; solid state circuitry mounted on G-10 glass board; indestructible lead zirconate titanate transducer. No fan or moving parts. Handsome appearance with long-lasting, Duralac®-coated steel housing. **Power Required:** 120 VAC, 60 Hz; 220–240 VAC, 50 Hz versions available on request. Comes with 3-wire grounded cord and NEMA plug.

American Beauty Model S-90 Cleaner—Power required, 225 watts input; 200 watts, cleaning. Tank interior 11½″ x 9½″ x 6″. Size, 12½″ x 10¼″ x 9½″ overall. Net Each.....**$403.48**

American Beauty Model S-70 Cleaner—Power required, 185 watts input; 150 watts, cleaning. Tank interior 11″ x 6″ x 6″. Size, 14″ x 9″ x 8½″ overall. Net Each.....**$326.48**

American Beauty Model S-50 Cleaner—Power required, 125 watts input; 100 watts, cleaning. Tank interior 9″ x 5″ x 4″. Size, 12″ x 7½″ x 9″ overall. Net Each.....**$168.70**

American Beauty Model S-30 Cleaner—Power required, 75 watts input; 50 watts, cleaning. Tank interior 5″ x 5″ x 3″. Size, 7¼″ x 7¼″ x 6″ overall. Net Each.....**$102.90**

American Beauty Model S-80 Cleaner—Power required, 250 watts input; 200 watts, cleaning. Tank interior 19¾″ x 5¾″ x 6″. Size 20¼″ x 6¼″ x 10½″ overall. Net Each.....**$429.80**

American Beauty Model ST-1 Automatic Shut-Off—Use with any of above cleaners for automatic shut-off. Adjustable up to 30 minutes. Net Each.....**$27.23**

ULTRASONIC CLEANERS ACCESSORIES

Last two digits of Catalog number indicate with which Cleaner Model the accessory is to be used; e.g., S-10**10** for Model S-10.

Catalog No.	Description	Net Each
S-1030	Stainless steel tank cover	$10.15
S-1130	Formed plastic tank cover, drillable	10.15
S-1230	Plastic beaker-positioning cover for one 400ML beaker	10.15
S-1330	Plastic beaker-positioning cover for three 100ML beakers	11.63
S-2030	Stainless steel insert tray, solid	10.15
S-2130	Stainless steel insert tray, perforated	11.63
S-4030	Pyrex beaker, 100ML	2.56
S-4230	Polypropylene beaker, 400ML	5.20
S-1050	Stainless steel tank cover	14.60
S-1150	Formed plastic tank cover, drillable	14.60
S-1250	Plastic beaker-positioning cover for two 400ML beakers	16.17
S-1350	Plastic beaker-positioning cover for three 250ML beakers	18.89
S-2050	Stainless steel insert tray, large, solid	18.89
S-2150	Stainless steel insert tray, perforated	20.30
S-2250	Stainless steel insert tray, small, solid	10.15
S-2350	Stainless steel insert tray, perforated	11.63
S-4050	Pyrex beaker, 250ML	2.56
S-4250	Pyrex beaker, 600ML	5.20
S-4350	Stainless steel beaker, 600ML	11.63
S-1070	Stainless steel tank cover	18.89
S-2070	Stainless steel insert tray, solid	29.21
S-2170	Stainless steel insert tray, perforated	33.41
S-1090	Stainless steel tank cover	21.78

®Trademark of Duralac Chemical Co.

AMERICAN BEAUTY DRI-WICK™ DE-SOLDERING DEVICE

- **DRY, CONVENIENT, THOROUGH**
- **AN INEXPENSIVE ANTI-WICKING "TOOL-ON-A-SPOOL"**
- **TESTED AND PROVED . . . . . USED BY SPACE-FLIGHT CENTERS AND THEIR SUBCONTRACTORS**

Made of specially-woven, pure copper; each strand coated with water white, non-corrosive, non-conductive resin. No danger of flux damage. To de-solder, lay Dri-Wick on joint and touch with soldering iron (30 to 40 watts) on top side for 1 second; capillary action draws all solder out of joint. As a supplementary use, wind Dri-Wick on a wire to automatically eliminate wicking. Usually a self-sufficient heat sink, Dri-Wick's almost instantaneously action reduces danger of damage to components. Cost per connection is usually less than 1c. Wide choice of sizes available for any job. Larger sizes now being developed; ask for information. Length, 2½ ft. per spool, No. 484-6; all others, 5 ft. per spool.

American Beauty No.	Width, In.	For Pad Size, In.	Type Circuit	Net/ Spool
484-1	.025†	.060 or smaller	Micro-min., IC	$1.12
484-2	.050‡	.060–.125	Min. PC boards	1.12
484-3	.075§	.125–.190	Std. PC boards	1.12
484-4	.095#	.190 or larger	Commercial PCB's, connectors	1.27
484-5	.130▲		Min. PC boards, turret terminals, etc.	1.27
484-6	.200•		Large PCB's, lugs and plugs	1.12

Color Code: †White; ‡Yellow; §Green; #Blue; •Orange; ▲Brown.

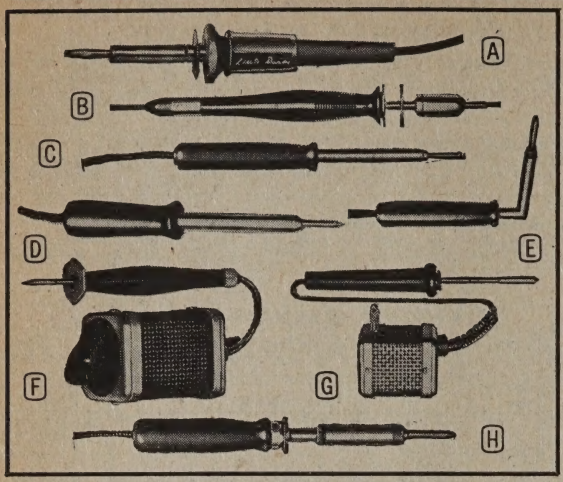
ADEL NIBBLING TOOL

- **Cuts any shape opening in sheet metal**
- **Hole edges stay flat and smooth after cut**
- **Will cut 18 gauge steel with ease**
- **Simple to use**

Cuts round, square or any shape hole in radio chassis, shields, cabinets, air ducts, etc., to fit any shape parts. Does not add strain or distortion to the edges or original form. Cuts in all directions. Easy to use; simply drill a ⅛″ dia. hole to start, then follow scribed line. **Capacity:** Steel—18 gauge (.046″) maximum; aluminum, copper or plastic—¼″. Shipping Weight, 8 oz.
Adel Nibbling Tool—Net Each, Lots of: 1-3.....**$5.95**; 4-11.....**$5.65**; 12–71.....**5.45**; 72 Up.....**5.25**
Adel Replacement Punch—For above. Net Each.....**$3.35**

551-74A

CONSULT OUR STAFF OF ELECTRONICS EXPERTS ON ALL YOUR SPECIAL EQUIPMENT OR COMPONENT NEEDS.



LITTLE DANDY® SOLDERING IRON (FIG. A)

Designed for continuous production line conditions. Long-life element in stainless steel casing; molded handle impervious to grease, oil and perspiration; crystal-clear aerated fingergrips; anti-roll handle. Reaches working temperature two minutes after plug-in; heat-deflecting baffle for cool operation; short efficient plug-type tip. Lightweight; perfect balance for ease of use; melt-proof 2-wire cord. Heating element 110–120 VAC available in a choice of wattages; specify when ordering. Paragon longlife tip supplied. For 3-wire cord with NEMA plug, add suffix **S3** to number and **84c** to prices shown. Add suffix **CT** to number for copper tip. Overall length, 6½". Shipping Weight, ½ lb.

Amer. No.	Wattage (Specify)	Tip Dia.	Tip Lgth.	Industrial Net	
				Copper Tip	Paragon Tip
3108	20/25/30	⅛"	2¼"	$10.56	$12.38
3110	25/30/35	3/16"	2¼"	10.64	12.46
3112	40/50/60	¼"	2¼"	13.04	15.10

B SERIES MINIATURE IRONS (FIG. B)

Precision irons with good heat retention and long-life element. Ideal for printed circuit work. Contoured, cool non-slip nylon handle with detachable cord. Maximum tip temperatures, B-2000 Series, 725° F; B-2500 Series, 850° F. "Floating" element maintains tip temperature under heat-sink conditions. Heating element is nickel-chrome on alumina, sealed in steel. In-handle conductors have insulated, steel case. Tapered tip-seating for quick screw-in tip replacement. Three-piece construction for fast takedown. For 3-wire cord with NEMA plug, add suffix **S3** to number and **84c** to prices. Shpg. Wt., ½ lb. 3 tips included.

American Beauty No.	Watts	Tip Dia.	Point Shape*	Length Overall	Industrial Net
B-2000-L	22½	*	*	7"	$19.56
B-2000-P	22½	⅛"	C	7"	19.56
B-2000-PM	22½	1/16"	C	7"	19.56
B-2000-C	22½	1/16"	Con.	7"	19.56
B-2000-B	22½	⅛"	BC	7"	19.56
B-2500-P	30	†	†	7"	19.56
B-2500-C	30	3/16"	D	7"	19.56
B-2500-D	30	3/16"	LC	7"	19.56
B-2500-B	30	1/32"	Con.	7"	19.56
B-2500-PM	30	3/32"	C	7"	19.56
B-2500-L	30	1/32"	C	7"	19.56

*One each, ⅛" C, 1/16" C and ⅛" conical. †One each, 3/16" D, 1/16" C and 1/32" conical.

TRANSFORMER TYPE IRONS

For use where complete isolation from line voltage is required. **Type T-6 (Fig. F)**—Six-volt model with tip heat variable from 310° F to 850° F in eleven 50° steps. Tip-element rated 12 watts, made of special ferro-alloy, chrome-plated and tinned. Conical shape, needle point can be re-shaped by filing. Handle of contoured nylon, with anti-roll heat baffle. For 115–120 VAC only. **Types T-12, T-30 (Fig. G)**—Twelve-volt models, tip heat non-variable. Irons take four different size tip-elements. Handles are plastic. For 110–120 or 220–240 VAC (specify when ordering). T-12 has integral plug prongs for wall socket; T-30 has cord and plug leading out of transformer.

For 3-wire transformer to NEMA plug cap cord, add **S3** to number and **$1.40** to price. Overall length Model T-6, 6¾"; Models T-12 and T-30, 7½".

American Beauty No.	W	Tip Dia.	Point Shape*	Shpg. Wt.	Industrial Net
T-6	V*	.....	N	2 lbs.	$44.52
T-12 with T-1216	17†	1/16"	D, C	1½ lbs.	29.54
T-12 with T-1218	17†	⅛"	D, C	1½ lbs.	29.54
T-12 with T-1225	17†	¼"	D, C	1½ lbs.	29.54
T-12 with T-1232	12	3/32"	C	1½ lbs.	29.54
T-30 with T-3016	30‡	1/16"	D, C	2 lbs.	34.65
T-30 with T-3018	30‡	⅛"	D, C	2 lbs.	34.65
T-30 with T-3025	30‡	¼"	D, C	2 lbs.	34.65
T-30 with T-3032	12	3/32"	C	2 lbs.	34.65

*Tip heat variable. †Also available in 20 watts. ‡Also available in 25 watts.

BANTAM IRONS

Small irons for constant duty on high-volume production. Micro-miniature size; lightweight; slim, tapered element casing only ⅛" dia. Handles are contoured hardwood (cork-free), ventilated and finished in rubberoid. Plug-in type for fast heating, removal and replacement. Standard 2-wire cord; for 3-wire cord add suffix **-S3** to number and **$1.40** to prices. For 110–120 or 220–240 VAC (specify when ordering). Irons with suffix **X** are extra heat type, recommended for continuous duty only. Irons rated 40 watts also available; specify wattage when ordering. For copper tip add suffix **CT** to number shown. Shipping Weight, ¾ lb.

American Beauty No.	Fig.	Watts	Tip Dia.	Point Shape*	Industrial Net	
					Copper Tip	Paragon Tip
3118*	D	30	⅛"	D	$12.71	$14.36
3118-A	E	30	⅛"	D	14.27	16.09
3118-X†	D	50	⅛"	D	14.19	16.17
3118-XA	E	50	⅛"	D	14.52	16.42
3118-XP†	C	50	⅛"	D	14.19	16.17
3118-SCP†	C	30	⅛"	D	12.71	14.36
3120*	D	30	3/16"	D	12.79	14.77
3120-A*	E	30	3/16"	D	14.52	16.42
3120-X‡	D	50	3/16"	D	14.19	16.17
3120-XA	E	50	3/16"	D	14.52	16.42
3120-XP‡	C	50	3/16"	D	14.19	16.17
3120-SCP‡	C	30	3/16"	D	12.79	14.77

Overall length: *9¼"; †8"; ‡8¼".

STANDARD IRONS

Designed for medium and large soldering jobs. Long-life element, nickel-chrome on steel core, is compression wound; mica insulated and tested to 1100 volts. One piece round, lightweight and balanced, stainless steel casing. Plug-type tip for quick heat and easy replacement. Rugged terminal assembly uses brass connector bars, pull-proof cord clamps, and grounding connection. Handle of hardwood is ventilated, and finished in rubberoid. Standard paragon longlife tip. Standard 2-wire cord; for 3-wire cord and NEMA plug add suffix **-S3** to number and **$1.40** to price. For 110–120 VAC; for 220–240 VAC or other common voltages, specify on order. Specify wattage when ordering. Suffix **X** denotes extra high heat type, recommended for continuous duty only. Add suffix **CT** for copper tip irons. **Point Shape*:** C, Nos. 3178, 3178-X, and 3198; D, all others. Shpg. Wt.: 5¾ lbs., No. 3198; 4 lbs., Nos. 3178, -X; 3 lbs., Nos. 3158, -X; 2 lbs., Nos. 3138, -X, -Y, -XY; 1½ lbs., No. 3138-A; 1 lb., all others.

American Beauty No.	Fig.	Watts	Tip Dia.	Lgth.	Industrial Net	
					Copper Tip	Paragon Tip
3114	D	60*	¼"	9"	$14.19	$16.25
3125	C	60*	¼"	12¼"	14.19	16.25
3125-A	E	60*	¼"	.....	14.69	16.75
3128	C	60*	¼"	12¼"	14.19	16.25
3128-A	E	60*	¼"	.....	14.19	16.17
3138	H	100†	3/8"	12⅞"	17.66	19.80
3138-A	H#	100‡	3/8"	.....	20.38	22.61
3138-X	H	175	3/8"	12⅞"	19.39	21.62
3138-Y	H	100†	¼"	13"	17.66	19.80
3138-XY	H	175	¼"	13"	19.39	21.62
3158	H	200	5/8"	13⅝"	22.61	26.64
3158-X	H	250	5/8"	13⅝"	24.34	27.89
3178	H	300	⅞"	14⅜"	29.04	34.98
3178-X	F	300§	⅞"	14⅜"	29.04	34.98
3198	H	550	1⅛"	15"	43.50	55.50

Other wattages available: *75; †130 or 150; ‡150; §400. #With angle-type casing per Fig. E.

TEMPERATURE REGULATING STANDS

Maintains soldering iron at preset temperature during periods of idle and intermittent use. Copper alloy cradle; case and handle support black, crackle finish steel; high-impact plastic base with steel base plate. Maximum input, 125 V. With standard 2-wire HPD cord; for 3-wire NEMA, add suffix **S3** and **$1.40** to prices.

American No.	Description	Shpg. Lbs.	Industrial Net
475	Stand for 100–660 W irons	3	$23.93
475-SG	Same, with safety guard	3¼	26.98
476	Stand for 30–85 W irons	3	26.48
476-SG	Same, with safety guard	3¼	29.54

GENERAL PURPOSE SOLDER POT

Medium-sized pot of solid cast iron holds 2½ lbs. of solder for fast-heat melting. Chemically stable to keep solder pure. Center-tapped 5/16-18 for fixturing, plus wide lip for fixture mounting. Direct-reading thermostat adjustable 350–750° F; controls two 300-watt cartridge-type elements. Brings full pot of solder to 400° F in 15 minutes; 750° F in 25 minutes. Wrap-around, black crackle finish, steel casing insulated. Base is ventilated for coolness. Crucible 3½" I.D. x 1½" deep. Standard cord is 2-wire; for 3-wire NEMA, add **S3** to number and **$1.40** to prices shown. For 110–120 VAC operation; 220–240 VAC available. Size, 5½" h. x 7" base O.D. x 6" top O.D.

Amer. No.	Description	Shpg. Wt.	Industrial Net
600	Solder Pot only	9 lbs.	$48.44
601	Solder Pot w/dross skimmer	9 lbs.	52.29

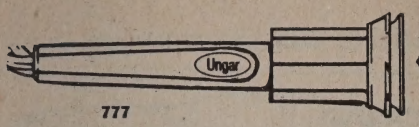
•POINT SHAPES

American Beauty offers a wide range of nickel-plated, copper tips and, in addition, Paragon Quality® tips. Fit most other make irons as well. Specification sheets available on request.

Key	Shape	Key	Shape	Key	Shape
BC	Blunt conical	Con.	Conical	LC	Long chisel
C	Chisel	D	Diamond	N	Needle

"STANDARD LINE" SOLDERING TOOLS

ALL PARTS THREAD TOGETHER WITH FINGERTIP EASE



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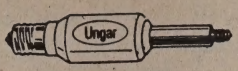
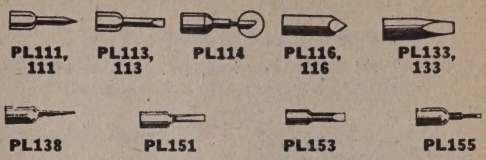


4037, 1237, 537



PL111, 111 | PL113, 113 | PL114 | PL116, 116 | PL133, 133

PL138 | PL151 | PL153 | PL155

MODEL 777 "CLEAN ROOM" HANDLE, KIT

"Clean Room" grip for electronic use. Pastel color handle reduces operator eye fatigue. Full contact spring socket; stainless steel heat deflector; octagonal guard washer; plated socket terminals; ceramic and glass insulator; thermo-stabilized phenolic body; polyvinyl insulated cord. Tips can't wobble.

Ungar Model 777 Handle—For 120 VAC/DC. Net Ea. . . **$2.97**

Ungar Model 776 Handle—Same, but red with cork grip. Net Each **$2.97**

Ungar Model 7070 All Purpose Kit—42 W, 120 VAC with 776 handle, 1237 heating unit, and 111, 113 and 116 tips. Net Each **$8.30**

¼" Thread-On Tips—Use with Standard Line Heating Units #537, #1237, #4037; 3-wire irons #127, #135, #145; DIT™ Line Heaters #360, #361, #362.

THREAD-ON HEATING UNITS AND TIPS

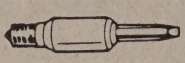
Provides 100% increase in recovery rate; greater heat transfer. Stops tip seizure from oxidation or solder; passivated plating prevents barrel oxidation and surface flaking. Tips copper alloy, iron clad silver-plated or unplated.

Ungar No.	Description	Net Each
4037	800°–850° F, 50-watt unit*	$4.98
1237	700°–750° F, 42-watt unit*	3.57
537	600°–650° F, 27-watt unit*	2.65
PL111	Iron clad pencil, ¾" long	1.25
PL113	Iron clad chisel, ¾" long	1.25
PL114	Iron clad stepped micro-spade	1.25
PL116	Iron clad pyramid, 5/16" long	1.25
111	Unplated copper pencil, ¾" long	.62
113	Unplated copper chisel	.62
116	Unplated copper pyramid, ¾" lg.	.67
PL133	Iron clad long taper chisel, ¾" lg.	1.25
133	Same as PL133, but copper tip only	.67
PL138	Iron clad tapered needle ¼" thread-on tip	1.25
PL151	Iron clad screwdriver ¼" thread-on tip	1.25
PL153	Iron clad chisel, ¼" thread-on tip	1.25
PL155	Iron-clad chisel, stepped ¼" thread-on tip	1.25

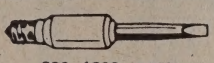
*At 120 volts.

HEATERS, INTERCHANGEABLE THREAD-IN TIPS, TIPLETS AND ADAPTERS

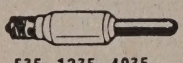
536, 1236, 4036



539, 1239, 4039



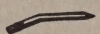
533, 1233, 4033



535, 1235, 4035 (Takes All #300 Series Tips)

4045 (Takes All Series 800 Tips, Including De-Soldering Types)

331+PL331



332+PL332

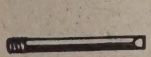
333+PL333

PL338

7154

PL340

7155



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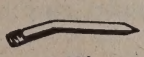
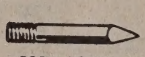
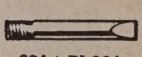


PL834



823+PL823



824+PL824

Heating Units Temperature Range: Low temperature, 600° F–700° F; intermediate temperature, 700° F–800° F; high temperature, 800° F–1000° F. All temperatures approx. Note: Use #100 adapter for Princess nibs and ⅛" thread-in Tiplets. Use #101 adapter for 3/16" thread-in tips. Both can be used with Standard Line heating units #537, #1237, #4037; 3-wire irons #127, #135 #145; DI Line heaters #360, #361 and #362.

INTEGRATED HEATING UNITS WITH TIPS

Ungar No.*	Description	Net Each
533	27 W copper, long taper chisel tip	$2.65
536	27 W copper, pyramid tip	2.65
539	27 W copper, short taper chisel tip	2.65
1233	42 W copper, long taper chisel tip	3.57
1236	42 W silver-plated, solid Armco iron pyramid tip	3.57
1239	42 W silver-plated, solid Armco iron short taper chisel tip	3.57
4033	50 W iron clad, silver-plated, long taper chisel tip	4.98
4036	50 W iron clad, silver-plated, pyramid tip	4.98
4039	50 W iron clad, silver-plated, short taper chisel tip	4.98

*Heating units are 120 volts AC/DC; all temperatures approx.

HEATING UNITS, TIPLET THREAD-IN SOLDERING TIPS AND ADAPTERS

Ungar No.*	Description	Net Each
535	⅛" tap unit for 300 and 7100 Series Tiplets	$2.65
1235	⅛" tap unit for 300 and 7100 Series Tiplets	3.57
4035	⅛" tap unit for 300 and 7100 Series Tiplets	4.98
7062	Precision point, iron clad, ⅛" dia.	1.75
PL331	Iron clad, silver-plated, 1" pencil ⅛" dia.	1.00
331	Plain copper version of PL331 Tiplets	.42
PL332	Iron clad, silver-plated 1" offset pencil, ⅛" dia.	1.00
332	Plain copper version of PL332 Tiplets	.42
7154	Iron clad, silver-plated stepped pencil, ⅛" dia.	1.00
PL333	Iron clad, silver-plated 1" long chisel, ⅛" dia.	1.00
333	Plain copper version of PL333 Tiplets	.42
7155	Iron clad, silver-plated stepped chisel, ⅛" dia.	1.00
PL338	Iron clad, silver-plated 1" tapered needle, ⅛" dia.	1.00
PL340	Iron clad, silver-plated ½" micro-spade, ⅛" dia.	1.00
4045	50 W 3/16" tap unit for Series 800 Tiplets	4.98
PL823	Iron clad, silver-plated 1" pyramid, 3/16" dia.	1.15
823	Plain copper version of PL823 Tiplets	.54
PL824	Iron clad, silver-plated 1" chisel, 3/16" dia.	1.15
824	Plain copper version of PL824 Tiplets	.54
PL833	Iron clad, silver-plated 1¾" chisel, 3/16" dia.	1.54
PL834	Iron clad, silver-plated 1¾" offset chisel, 3/16" dia.	1.54
100	⅛" adapter for thread-in Tiplets	.40
101	3/16" adapter for thread-in Tiplets	.40

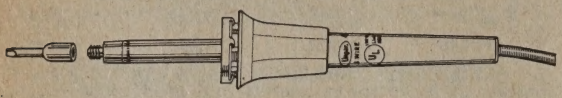
*Heating units are 120 volts AC/DC; all temperatures approx.

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

3-WIRE AND D I™ LINE SOLDERING IRONS, DE-SOLDERING TIPS AND ACCESSORIES

3-WIRE SOLDERING IRONS

FOR USE WITH MORE THAN 40 INTERCHANGEABLE TIPS FOR SOLDERING AND DE-SOLDERING



Provides many of the advantages of the Standard Line as a production soldering tool with approved grounding. Lightweight, integrated iron, has molded handle and octagonal cool grip. Threaded metal body for tip selection. Accepts ¼″ thread-on tips, with adapter #100, ⅛″ nibs and Tiplets; with adapter #101 for all 3⁄16″ thread-in tips. Choose from more than 40 tips and de-soldering accessories. Simplified design makes it easy for in-shop replacement or change of heating element or cord. Three wattages available; temperature ranging from 650° F to 1000° F approx. 3-wire line is designed to eliminate static induced currents, iron is especially desirable for work on MOSFET and other IC components. Meets OSHA requirements. UL Listed.

Ungar No.	Voltage	Watts	Tip Temperature	Net Each
127*	120	27	650° F–750° F	$8.95
135*	120	35	750° F–850° F	8.95
145*	120	45	900° F–1000° F	8.95

*Adapter and tip not included; all temperatures approx.

REPLACEMENT PARTS FOR 3-WIRE SOLDERING IRONS

Ungar No.	Description	Net Each
127-S	27 W heating element assembly	$3.75
135-S	35 W heating element assembly	3.75
145-S	45 W heating element assembly	3.75
129	Heat reflector	.33
130	Threaded body for heating element	2.50
136	Handle and cord set assembly	4.17

NEW DOUBLE INSULATED D I™ LINE

- **Easy to use—lightweight and compact design with flexible cord set.**
- **Easy to change—rugged stainless steel thread-in heaters.**
- **Cool—handle is molded of durable plastic, with finger-ease grip.**
- **Safe—new heater and handle with two-conductor cord set and safety plug, are double insulated. Meets OHSA requirements. UL Listed.**
- **Plus—use any Standard Line thread-on tips or with Ungar's #100 adapter, all ⅛″ Tiplets and nibs. With adapter #101, all 3⁄16″ thread-in tips. Choose from more than 40 tips and de-soldering accessories.**

Ungar No.	Volts	Watts	Tip Temperature*	Net Each
360	120	27	650° F–750° F	$4.92
361	120	35	750° F–850° F	4.92
362	120	45	850° F–950° F	4.92
363†	120	45	850° F–950° F	6.10
555	120	Thread-in handle		3.58

*All temperatures are approximate. †With integral tip.
Note: Use heater and handle together.

DE-SOLDERING TIPS AND ACCESSORIES

DE-SOLDERING TIPS

857

858

Removes components 70% faster than ordinary soldering iron tips. Melts solder on all terminals simultaneously. Avoids lug breakage; shorting and PC board rupturing. Use with Standard Line heating unit #4045. With #101 adapter, fits Standard Line heaters #1237 and #4037; 3-wire irons #135 and #145; new D I Line heaters #361 and #362.

Ungar No.	Tip Type	Size, In. O.D. x L.	Net Each
857	Slotted	1″ x 3⁄16″	$1.42
858	Bar	1½″ x ⅜″	1.42

UNGAR SOLDER-OFF BULB

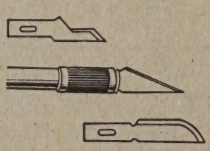
Desoldering bulb with TFE tip facilitates accurate printed circuit soldering and cleaning. May be used with "Imperial" and "Standard Line" soldering irons. (Not illustrated.)
Ungar No. 7805 Solder-Off Bulb—Net Each.....**$1.92**

SOLDERING IRON HOLDER

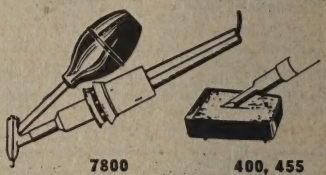
Protects operator from burns; prevents iron breakage. Use with Ungar 776 or 777 handle. Attaches easily to bench; angle adjustable.
Ungar No. 8000 Holder—Net Each..**$3.12**

KLEEN-TIP SPONGE AND TRAY

Specially processed sponge provides the surest way to clean soldering tips. Removes oxidation, prevents contamination and insures soldering reliability. Phenolic tray. Fastens to bench.
Ungar No. 400—Net Each.....**$1.75**
Ungar No. 455 Refill Sponge—Individually packaged.
Net Each..... .68



7910



7800

400, 455

MODEL 7910 HOT KNIFE ATTACHMENT

Cuts and seals synthetics, vinyl film, styrofoam and other plastics. Easily cuts coatings on PC boards. Consists of collet holder and three tempered steel blades. For use with Standard Line heating units #537, #1237, #4037; 3-wire irons #127, #135, #145; new D I Line heaters #360, #361, #362.
Ungar No. 7910 Hot Knife Attachment—Net Each.....**$1.72**

MODEL 7825 DE-SOLDERING ATTACHMENT

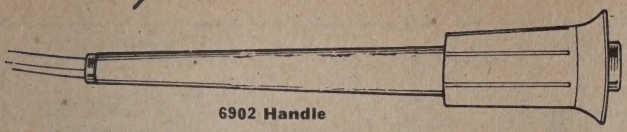
Melts and removes solder in one operation. Vacuum action lifts solder from PC boards. Tips use special liner for long life. For use with #4037 Standard Line heating unit and #776 or #777 handles; also 3-wire iron #145 and new D I Line heater #362.
Ungar No. 7825 De-Soldering Attachment—Net Each..**$10.95**

HOT-VAC DESOLDERING, CLEANING TOOL

Reduced PC repair and rework time. Hot-Vac melts and removes solder in fast, one-hand operation. Complete with Standard Line Handle #777, Heating Unit #4037 and Tip #7806, with special liner for long life.
Ungar No. 7800 Hot-Vac Tool—Net Each.....**$18.25**
Ungar No. 7806—Replacement tip for above; .057″ dia. hole.
Net Each.....**$1.15**
Ungar No. 7812—Same as above, but with .033″ dia. hole.
Net Each.....**$1.58**

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

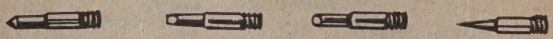
SOLDERING TOOLS, ACCESSORIES



6902 Handle

6910, 6915, 6918 Heat Capsules

Nib



6950, 6960 | 6951, 6961 | 6952, 6962 | 6953, 6963

Miniature soldering iron designed to meet requirements for precision micro-electronic circuitry and high density assembly. Offer thermo-efficiency and work capacity never before achieved in small feather-weight irons. Slim design, turquoise handle assures deft soldering. Choice of easy-to-assemble units thread together for versatility in tip shapes and temperature capabilities. Low initial investment, economical maintenance and inexpensive parts replacement.

PRINCESS HANDLES

Slim, cool design is molded of heat-resistant nylon in pastel turquoise. New, cool plastic grip. Integral cord set, available in 2 or 3-wire models. Rated 120 volts AC/DC. Cords are flexible vinyl-covered. Heat capsule threads into handle socket. Perfectly balanced, pencil slim, new cooler operation. UL listed.

Ungar No.	Cord Type	Net Each
6902	2-conductor with plug	$5.65
6903	3-conductor with NEMA plug	8.00

PRINCESS HEAT CAPSULES

Threaded to accept the special thread-in Princess soldering nibs and mating to the Princess handles with finger-tip ease. Also accept "Standard Line" ⅛" Tiplets if desired (will not accept Imperial tips). Choice of three wattages and temperature ranges to suit most production requirements. For 120 VAC/DC operation. Size, 3⅛" long; extends 2⅜" from handle. Wt., 0.2 oz.

Ungar No.	Watts	Temperature Range	Net Each
6910	10	575° F to 650° F	$7.10
6915	15	700° F to 775° F	7.10
6918	18	775° F to 850° F	7.10

PRINCESS SOLDERING NIBS

Choice of gold-plated iron clad or unplated cadmium copper tips in four standard shapes. Finger-tip ⅛" thread-in use on any Princess heat capsule listed above. Ungar's ⅛" Standard Line Tiplets may also be used (see listing on another page). Wt., .03 oz.

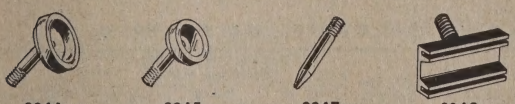
Ungar No.	Shape	Lgth., In.	Tip Stepped to:	Net Each
6950*	Pencil	7/16	.080" x .015"	$0.59
6951*	Screwdriver	½	.080" x .055"	.59
6952*	Spade, 45°	7/16	.080" dia.	.59
6953*	Precision point	7/16	.080" x .005"	1.10
6960	Pencil	7/16	.080" x .015"	1.05
6961	Screwdriver	½	.080" x .055"	1.05
6962	Spade, 45°	7/16	.080" dia.	1.05
6963	Precision point	7/16	.080" x .010"	1.92

*Cadmium copper tips; all others, gold-plated iron-clad.

PRINCESS IC DE-SOLDER KIT

Ideally suited for PC boards 1/32" or less, using low-density circuitry, unplated eyelets or mounting holes. Includes 3-wire grounded Princess handle, 18-watt heat capsule and three (No. 6945, 6947, 6948) de-solder tips. (Not Illustrated.)
Ungar No. 6939 De-Solder Kit—Net Each..... $23.10

DE-SOLDER TIPS



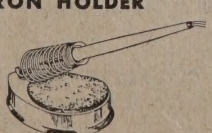
6944 | 6945 | 6947 | 6948

Iron-clad, nickel-plated and pre-tinned tips may be used with Ungar "Standard" line heating units No. 535, 1235 and 4035 or Princess heat capsules (for lower or higher tip temperatures).

Ungar No.	Tip Temp., at 18 W	Description	Net Each
6943	700° F	TO pkg. (cup) .6" dia.	$3.13
6944	710° F	TO pkg. (cup) .5" dia.	3.13
6945	720° F	TO pkg. (cup) ⅜" dia.	3.13
6946	780° F	TO pkg. (cup) .28" dia.	3.13
6947	750° F	Slotted (lead and tab) straightener	2.49
6948	570° F	Dual inline IC	3.50

PRINCESS SOLDERING IRON HOLDER

Plastic base for convenient holding of Princess iron. Comes with specially-processed sponge for tip cleaning. Weight, 3 oz.
Ungar Model 6990 Holder—Net Each..... $5.25
Ungar No. 6991 Sponge Refill—Replacement cleaning sponge for above holder. Net Each..... $0.77



PRE-ASSEMBLED PRINCESS COMBINATIONS

MODEL 6975 SOLDERING IRON

All-in-one package provides a complete Princess soldering iron with three interchangeable copper nibs. Includes one 6902 handle with 2-conductor cord and plug, one 6910 Heat Capsule rated 10 watts, one 6950 pencil nib, one 6951 screwdriver nib and one 6952 spade nib.
Ungar No. 6975 Princess Assembly—Net Each..... $13.98

MODEL 6900 SOLDERING STATION

Fully assembled iron with three interchangeable copper nibs, plus Princess holder with cleaning sponge. Includes: 6902 handle with 2-conductor cord and plug, 6910 heat capsule rated 10 watts, 6950 pencil nib, 6951 screwdriver nib, 6952 spade nib, and 6990 soldering iron holder complete with cleaning sponge.
Ungar No. 6900 Soldering Station—Net Each..... $18.67

PRINCESS DUAL INLINE AND TO-5 EXTRACTORS

No. 6982 extracts up to 16-pin dual inline IC's; use 6948 de-solder tip. No. 6983 extracts most TO-5 encased devices; use with Nos. 6943, 6944, 6945, or 6946 TO de-solder tips.
Ungar No. 6982 Dual Inline—Net Each..... $2.82
Ungar No. 6983 TO-5—Net Each..... $3.25

6982 | 6983

NEW PRINCESS HEAT GUN

NOW AVAILABLE IN BOTH 2- AND 3-WIRE MODELS

Hot air tool offers a unique combination of features and benefits to users of heat shrinkable products as well as many other lab and industry uses. Lightweight of only 13 oz. Insures positive control wherever precise hot air direction is required. Reduces operator fatigue. Air stream width at nozzle is ⅜". Reducing baffle, included with gun, reduces air stream width to .200"; 4 baffle reflectors are included for solder sleeves and shrink tubing applications. Reflectors are designed to decrease shrinking time by directing hot air flow around all tubing surfaces simultaneously. Delivers an air flow temperature at the nozzle of approx. 750° F to 800° F in seconds. Designed for either hand-held use, or may be placed on table or workbench without need for holder. On-off cold switch at trigger position. Allows cooling or drying as well as heat applications. For solder sleeves and all polyvinyl, olefins, silicone rubber and TFE heat shrink materials; also ideal for shrink film packaging, epoxy curing and encapsulation. UL Listed. Rated 250 watts, 120 VAC only.
Ungar No. 6955C Princess Heat Gun—2-wire model. Net Each..... $39.95
Ungar No. 6966C Princess Heat Gun—3-wire model. With NEMA plug for approved grounding. Net Each..... $42.00
Ungar No. 6965 Princess Heat Gun Holder—Net Each. 3.00

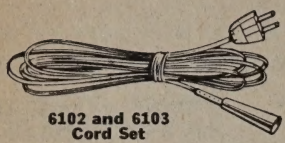
REPLACEMENT PARTS

Ungar No.	Description	Net Each
160	Heating element for 6955, 6966	$ 7.25
161	Motor and scroll assembly for 6955, 6966	*
162	2-wire cord assembly for 6955	3.58
163	3-wire cord assembly for 6966	4.68
164	On-off switch for 6955, 6966	3.03
165	Hot-cold switch for 6955, 6966	1.65
166	Heat gun case assembly for 6955, 6966	*
167	Cone and insulator assembly for 6955 ,6955C	4.50
168	Cone and insulator for 6966, 6955C	5.23
182	Heating element with diode assembly for 6955C, 6966C	8.67
183	Motor and scroll assembly for 6955C, 6966C	14.92
186	2-wire cord assembly for 6955C	3.58
187	3-wire cord assembly for 6966C	4.68
188	Hot-off-cold switch for 6955C, 6966C	3.03
189	Heat gun case for 6955C, 6966C	12.50
6956	½" large reflector	.50
6957	1¼" large reflector	.50
6958	Reducing baffle	1.08
6964	Solder sleeve adapter	2.25

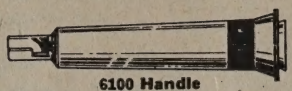
*Price on request.

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

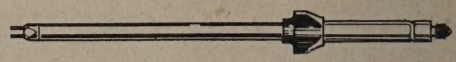
PRECISION MATCHED COMPONENTS, SOLDERING TOOL



6102 and 6103 Cord Set



6100 Handle



6200, 6201, 6202 and 6203 Heat Cartridges

6304

6305

Interchangeable cord sets, tips and heat cartridges ideal for critical micro-miniature components. Reliable, low wattage, high temperature performance. Perma-Cool handle has double cushion of air combined to 5 heat-transition surfaces for continuous cooling. Components individually packaged on cards; assemble to suit your needs. All electrical tools and components are UL Listed and rated at 120 volts AC/DC. **Not interchangeable with "Standard Line".**

PERMA-COOL COLORED HANDLE

Cool, pastel turquoise handle has been proven to reduce operator fatigue. Virtually indestructable, handle is made of high strength plastic resin. Diecast heat sink built-in. Pencil type design for easy handling. UL Listed. Size, 0.8" O.D. at grip; 4.7" lg. Weight, 1 oz.

Ungar No. 6100—Handle only. Net Each..... **$2.65**

6312
6313

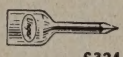
6316

INTERCHANGEABLE CORD SETS

Instantly adapts your iron to any 2 or 3 wire outlet. Molded female connector plugs onto the Perma-Cool handle without tools. Vinyl-covered cord, 18 gauge, 65 strands extra-flexible copper; terminals and connectors molded polyvinyl chloride. Center conductor (3-wire type) is insulated with green polyvinyl. Weight: 2½ oz., 2-wire; 4 oz., 3-wire. Supplied in pastel turquoise color only.

Ungar No.	Description	Net Each
6102	Standard 2-wire cord set with plug	$3.83
6103	3-wire cord set with NEMA plug	5.69

6318
6319



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6325

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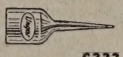


6333

INTERCHANGEABLE LONG-LIFE HEAT CARTRIDGES

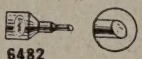
Stainless steel, sealed cartridge with element at tip and threaded end for quick tip changes; keeps heat at tip where it belongs. Four ratings available: **6200:** 45 watts for 750-950° F; accepts all tip Nos. 6304 through 6482. Size, 7½" l. x .363" dia. (2½" l. from flange). Wt., 1.1 oz. **6201:** Same, but 35 watts for 650-850° F. **6202:** Same, but 25 watts for 600-800° F. **6203:** 55 watts for heat range, 850° to 1150° F (2.65" l. from flange). Accepts Imperial® MINI-TIPS® only.

Ungar Number	Rated Watts	Net Each	Ungar Number	Rated Watts	Net Each
6200	45	$6.80	6202	25	$6.80
6201	35	6.80	6203	55	8.00

6366

6368

6473



6482

THREAD-ON IMPERIAL MINI-TIPS®

For Imperial heat cartridges only. New, improved iron-clad tips are pre-tinned and chrome-plated for improved performance.

MINI-TIP® FOR 6200, 6201, 6202 OR 6203 HEAT CARTRIDGES

Ungar No.	Shape	Material	Size, In. O.D. x L.	Temp. (°F)* With Cartridge Rated 25 W	35 W	45 W	Net Each
6304	Micro-chisel	Iron clad	3/64 x ½	750	800	890	$1.70
6305	Micro-spade	Iron clad	3/64 x ½	750	800	890	1.70
6312	Pencil	Copper	⅛ x ¾	750	800	910	.82
6313	Pencil	Iron clad	⅛ x ¾	690	750	860	1.70
6316	Offset pencil	Iron clad	⅛ x ¾	690	750	860	1.70
6318	Long taper chisel	Copper	⅛ x ¾	750	800	890	.82
6319	Long taper chisel	Iron clad	⅛ x ¾	690	750	860	1.70
6324	Long taper pyramid	Copper	⅛ x ¾	750	800	890	.82
6325	Long taper pyramid	Iron clad	⅛ x ¾	690	750	860	1.70
6331	Screwdriver	Iron clad	⅛ x ¾	690	750	860	1.70
6333	Needle	Iron clad	⅛ x ¾	690	750	860	1.70
6366	Long taper chisel	Iron clad	3/16 x ¾	680	730	850	2.00
6368	Long taper pyramid	Copper	3/16 x ¾				.97
6473	Long taper chisel	Copper	⅜ x ¾				.97
6481	Tapered screwdriver	Iron clad	¾ x 3/32	690	750	860	1.70
6482	Micro-spade stepped	Iron clad	3/64 x ½	700	770	860	1.70

*Slight variation in line voltage will give ±25° F deviation.

SAFETY-GUARD HOLDER

Ungar No. 6800—Designed for Imperial, 3-wire and new DIT™ line irons. Protects against hot tip burns or handle damage. Attaches to top or underside of bench; adjustable angle. Net Each..... **$3.12**

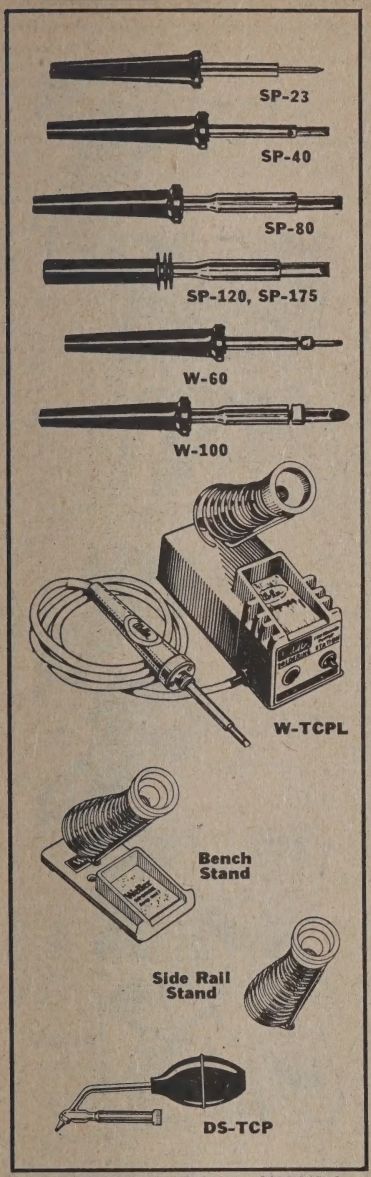
ANTI-SEIZE

Ungar No. 8001—Specially formulated lubricant for use on metals operating at high temperatures. Reduces tip thread seizure and prolongs tip life. ½ oz. tube. Net Each..... **$1.15**

IMPERIAL COMPLETE SOLDERING IRON

Ungar No. 6010—Includes one 6100 handle, one 6102 cord set, one 6200 heat cartridge and 6318, 6368. and 6473 Mini-Tips. Net Each..... **$15.65**

QUANTITY DISCOUNTS AVAILABLE ON REQUEST



SOLDERING TOOL STANDS

Weller No. PH60—Bench type with base and sponge for W60, WP25, WP40, and irons with barrel dia. up to 15/32".
Weller No. PH100—Bench type with sponge for W100 and irons with barrel diameter up to 13/32".
Weller No. SFA1—Side rail type for TCP1 and irons with barrel dia. up to 3/8".
Weller No. SFA60—Side rail type for W60 and irons with barrel dia. up to 15/32".
Weller No. SFA100—Side rail type for W100 and irons with barrel dia. up to 13/32".

PRICE TABLE

Weller No.	Net Each, Lots of 1-11	12-47	48 Up
PH60	$6.00	$5.40	$4.80
PH100	7.00	6.30	5.60
SFA1	2.00	1.80	1.60
SFA60	2.00	1.80	1.60
SFA100	3.35	3.00	2.70

INDUSTRIAL DESOLDERING ADAPTERS

Weller No. DS-TCP—For use with WTCP and WTCP-L. Net Ea., Lots 1–11. **$9.00**
12–23..... **$8.65**; 24 Up..... **7.70**
Weller No. DS60—For use with W60.
Net Each, Lots of 1–11..... **$9.25**
12–23..... **$8.25**; 24 Up..... **7.40**

"MARKSMAN" SOLDERING IRONS

High efficiency irons with stainless steel barrels; heat and impact resistant handles. For 120 V. Complete with replaceable copper plated tip and instruction booklet packed in a vinyl pouch. UL Recognized.

Weller No.	Watts	Type	Tip	Overall Length	Wt., Oz.	Net Each, Lots of 1-11	12-47	48 Up
SP-23	25	Pencil	MT-1 cone	8 1/4"	1 3/4	$ 4.60	$ 4.15	$3.70
SP-40	40	Pencil	MT-10, 1/4" dia.	8 1/4"	2	5.85	5.25	4.70
SP-80	80	Med. duty	MT-20, 3/8" dia.	9 3/8"	4	7.50	6.75	6.00
SP-120	120	Med. duty	MT-30, 1/2" dia.	11 3/8"	10	10.00	9.00	8.00
SP-175	175	Hvy. duty	MT-40, 5/8" dia.	12 1/2"	16	11.70	10.50	9.35
SP-23K	With SP-23 iron, 3 tips, 5' rosin core solder and aid tool with instructions					7.10	6.40	5.70
SP23HK	Hot knife and soldering iron; includes blade, chuck, interchangeable soldering tip					6.65	6.00	5.35

PLATED REPLACEMENT TIPS FOR "MARKSMAN" IRONS

Pkg. of 2 tips, except MT-20 to MT-40, pkg. of 1.

Weller No.	For Marksman Iron	Tip Type	Net Pkg. of 2, Lots of 1-11	12-47	48 Up
MT-1	SP-23	Cone shape	$1.00	$0.90	$0.80
MT-2	SP-23	Screwdriver	1.00	.90	.80
MT-3	SP-23	Chisel	1.00	.90	.80
MT-10	SP-40	1/4" chisel	1.70	1.50	1.35
MT-20	SP-80	3/8" chisel*	1.70	1.50	1.35
MT-30	SP-120	1/2" chisel*	2.50	2.25	2.00
MT-40	SP-175	5/8" chisel*	3.35	3.00	2.70
HK11	SP23HK	Blade, chuck*	1.90	1.90	1.90

*Price indicated is for single tip.

CONTROLLED OUTPUT SOLDERING PENCILS AND TIPS

MODEL W-TCP LOW VOLTAGE PENCIL

Precision-built, 60-watt soldering pencil. Features: Temperature controlling at tip, choice of interchangeable tip temperatures; low voltage (24 V) operation from power unit for component protection. Extremely small and lightweight, with cool handle of impact-resistant plastic. Soldering iron stand attached to power unit. With 3/16", 700° F premium plated screwdriver tip. For 120 VAC, 50–400 Hz (230/250 V available on request). **Replacement tips available:** 1/32", 3/64", 1/16", 5/64", 3/32", 1/8", 3/16", and 15/64" sizes in screwdriver, long screwdriver, narrow screwdriver, conical, single flat shapes for temperatures of 600°, 700° and 800° F. See complete listing below. New blue color.

Weller No. W-TCP—
Net Each, Lots of 1–11..... **$35.85**; 12–23..... **$32.25**; 24 Up..... **$28.70**
Weller No. W-TCP-L—Same as above, but with on-off switch and pilot light on power unit. Net Each, Lots of 1–11..... **$37.50**; 12–23..... **$33.75**; 24 Up..... **$30.00**

REPLACEMENT TIPS FOR W-TCP AND W-TCP-L

Tip Description	Weller Number 600° F	700° F	800° F	Net Each, Lots of 1-24	25-99	100 Up
1/16" screwdriver	PTA6	PTA7	PTA8	$1.50	$1.35	$1.20
1/16" single flat	PTAA6	PTAA7	PTAA8	1.50	1.35	1.20
3/32" screwdriver	PTB6	PTB7	PTB8	1.50	1.35	1.20
3/32" single flat	PTBB6	PTBB7	PTBB8	1.50	1.35	1.20
1/8" screwdriver	PTC6	PTC7	PTC8	1.50	1.35	1.20
1/8" single flat	PTCC6	PTCC7	PTCC8	1.50	1.35	1.20
3/16" screwdriver	PTD6	PTD7	PTD8	1.50	1.35	1.20
3/16" single flat	PTDD6	PTDD7	PTDD8	1.50	1.35	1.20
1/32" screwdriver	PTH6	PTH7	PTH8	1.50	1.35	1.20
1/32" conical -	PTP6	PTP7	PTP8	1.50	1.35	1.20
1/32" single flat	PTF6	PTF7	PTF8	1.50	1.35	1.20
15/64" screwdriver	PTE6	PTE7	PTE8	1.50	1.35	1.20
3/64" long screwdriver	PTK6	PTK7	PTK8	1.50	1.35	1.20
5/64" long screwdriver	PTL6	PTL7	PTL8	1.50	1.35	1.20
1/8" long screwdriver	PTM6	PTM7	PTM8	1.50	1.35	1.20
1/32" long conical	PTO6	PTO7	PTO8	1.50	1.35	1.20
1/16" narrow screwdriver	PTR6	PTR7	PTR8	1.50	1.35	1.20

CONTROLLED OUTPUT INDUSTRIAL SOLDERING IRONS

Sensing device at tip assures reliable soldering; won't overheat; maintains selected maximum temperature. Two-wire cord. With 700° F tips. "Temperature Sensing" tips are available in standard industrial configurations at 600°, 700° and 800° F; see listings below. Models W60 and W100 have new blue color.

Weller No.	Watts	Type	Tip	Overall Length	Wt., Oz.	Net Each, Lots of 1-11	12-47	48 Up
W60	60	Pencil	1/4" screwdriver	7 1/4"	2 1/2	$14.20	$12.75	$11.35
W100	100	Pencil	3/8" screwdriver	8 1/4"	3 1/2	17.90	16.15	14.35

PREMIUM PLATED REPLACEMENT TIPS FOR W60 SOLDERING IRON

For Model W60 blue series tools only.

Point Size	Description	Reach	Weller Number 600° F	700° F	800° F	Net Each, Lots of 1-24	25-99	100 Up
1/16"	Screwdriver	15/32"	CT5A6	CT5A7	CT5A8	$1.50	$1.35	$1.20
3/32"	Screwdriver	15/32"	CT5B6	CT5B7	CT5B8	1.50	1.35	1.20
1/8"	Screwdriver	15/32"	CT5C6	CT5C7	CT5C8	1.50	1.35	1.20
3/16"	Screwdriver	15/32"	CT5D6	CT5D7	CT5D8	1.50	1.35	1.20
1/4"	Screwdriver	15/32"	CT5E6	CT5E7	CT5E8	1.50	1.35	1.20

PREMIUM PLATED REPLACEMENT TIPS FOR W100 SOLDERING IRON

For Model W100 blue series tools only.

Point Size	Description	Reach	Weller Number 600° F	700° F	800° F	Net Each, Lots of 1-14	15-49	50 Up
1/8"	Screwdriver	15/32"	CT6C6	CT6C7	CT6C8	$2.50	$2.25	$2.00
3/16"	Screwdriver	15/32"	CT6D6	CT6D7	CT6D8	2.50	2.25	2.00
1/4"	Screwdriver	15/32"	CT6E6	CT6E7	CT6E8	2.50	2.25	2.00
3/8"	Screwdriver	15/32"	CT6F6	CT6F7	CT6F8	2.50	2.25	2.00

PREMIUM PLATED REPLACEMENT TIPS FOR W200 SOLDERING IRON

1/4"	Screwdriver	1 7/8"	CT2E6	CT2E7	CT2E8	$4.20	$3.75	$3.35
3/8"	Screwdriver	1 7/8"	CT2F6	CT2F7	CT2F8	4.20	3.75	3.35
7/16"	Chisel	1 9/16"	CT2G6	CT2G7	CT2G8	4.20	3.75	3.35
1/2"	Chisel	1 9/16"	CT2H6	CT2H7	CT2H8	4.20	3.75	3.35

WELLER SOLDERING GUNS, KITS

MODEL 8200 DUAL HEAT SOLDERING GUN
Two trigger positions provide instant switching to high (140 watts) or low (100 watts) heat. Tip heats instantly and spotlight comes on when trigger is pulled. UL Recognized.

MODEL 8200PK DUAL HEAT SOLDERING GUN KIT
Includes Weller dual heat 100/140 watt gun, rugged plastic utility case, three soldering tips, tip-changing wrench, flux brush, soldering aid and solder.

SERIES "D" DUAL-HEAT PROFESSIONAL GUNS
Exclusive dual-heat feature saves time, adds convenience, and greatly increases tip life. Triggermatic control switches instantly to high or low heat as the job requires. Tip life is increased by using high heat only when necessary. No wasted time or current. Twin spotlights eliminate shadows on work. Carefully engineered design provides long reach; handles difficult jobs with ease; slips between wiring without damage to insulation. Exclusive tip grip assures full constant heat; wiping action of tip-fastened nut eliminates contact resistance and oxidation. **Model D440:** Medium duty gun rated 145/210 watts. **Model D550:** Heavy-duty gun rated 240/325 watts. UL Recognized.

MODEL D550PK HEAVY-DUTY DUAL HEAT SOLDERING GUN KIT
Features 240/325 watt dual heat gun, break-proof plastic carrying case, soldering, smoothing and cutting tips, tip-changing wrench and solder.

SOLDERING GUN AND KITS—DEALER NET PRICES

Weller No.	Rating, Watts	Net Each, Lots of 1-2	3-11	12 Up	Weller No.	Rating, Watts	Net Each, Lots of 1-2	3-11	12 Up
8200	100/140	$11.60	$10.45	$ 9.30	D550	240/325	$16.60	$14.95	$13.30
8200PK	100/140	13.75	12.40	11.00	D550PK	240/325	19.20	17.25	15.35
D440	145/210	13.45	13.90	12.35					

SOLDERING GUN REPLACEMENT TIPS

Weller No.	For Gun or Iron No.	Tip Type	Net Pkg. 2	Weller No.	For Gun or Iron No.	Tip Type	Net Each
8125*	8100B, 8200	Solder	$1.00	7135N†	8100, 8100B, 8200, D-440	Solder	$1.00
8125N‡	8100B, 8200	Solder	1.00§				
7250	8250A, D-550	Solder	1.00	6120†	8100B, 8200, D-440	Smoothing	1.00
7250N†	8250A, D-550	Solder	1.00§	6110†	8100B, 8200, D-440	Cutting	1.00
7135	8100, D-440, 8100B, 8200	Solder	1.00	6130†	8250A, D-550	Cutting	1.00

*Premium plated tip; all others copper. †With tip nuts. ‡Premium plated; with tip nuts. §Net Each.

TEMPMATIC TEMPERATURE CONTROLLED SOLDERING TOOLS
Fast and reliable. Easy to handle, weighs 7 oz. Features quick change powerhead. Comes with 3/16" chisel point, 700° F powerhead. 120 VAC.
Weller No. GT7A—Net Each, Lots of 1–2 ..... $15.00
Net Each, Lots of 3–11 ..... $13.50; 12 Up 12.00
Weller No. GT6B—Same, but with 1/8" conical point, 600° F powerhead.
Net Each, Lots of 1–2 ..... $15.00; 3–11 ..... $13.50; 12 Up $12.00
Weller No. 6B—Powerhead only, 1/8" conical point, 600° F. Net Each 10.00
Weller No. 7A—Powerhead only, 3/16" chisel point, 700° F. Net Each 10.00
Weller No. GT—Handle only, with trigger and cord. Net Each 5.00

FIELD SERVICE SOLDERING PENCIL
Versatile controlled output tool for field servicing. Operates from suitable batteries or low voltage power source supplying 12 to 14 volts. Tip temperature, 700° F. Screwdriver blade tip, 3/16" wide.
Weller No. TCP-12 Field Soldering Pencil—Complete with battery clips and 12 ft. cord.
Net Each, Lots of 1–5 ..... $15.85; 6–23 ..... $14.25; 24 Up $12.70

PROFESSIONAL SOLDERING IRONS
Extremely rugged, service grade tools. Stainless steel barrels, long life industrial grade double coated tips. Cool blue pencil handle of impact resistant plastic. Only 1¼ oz., 8" long. 120 volts. UL Listed.
Weller No. WP25 Soldering Iron—25 watts, with 1/16" screwdriver tip.
Net Each, Lots 1–11 ..... $7.50; 12–47 ..... $6.75; 48 Up $6.00
Weller No. WP40 Soldering Iron—40 watts, with 1/8" screwdriver tip.
Net Each, Lots 1–11 ..... $9.60; 12–47 ..... $8.65; 48 Up 7.70

REPLACEMENT TIPS FOR WP25 AND WP40

Weller No.	Tip Description	Net Each, Lots 1-14	15-49	50 Up	Weller No.	Tip Description	Net Each, Lots 1-14	15-49	50 Up
ST1	1/16" screwdriver	$1.25	$1.15	1.00	ST3	1/8" screwdriver	$1.25	$1.15	$1.00
ST2	3/32" screwdriver	1.25	1.15	1.00	ST4	3/16" screwdriver	1.25	1.15	1.00

PROFESSIONAL DESOLDERING/RESOLDERING TOOL
A must for servicing modern printed circuit boards and solid state equipment. Complete with .063" opening tip. 120 volts; rated 40 watts. Two-wire cord.
Weller No. DS40 Desoldering/Resoldering Tool—Net Each, Lots of 1–2 ..... $14.20
Net Each, Lots of 3–11 ..... $12.75; 12 Up 11.35

REPLACEMENT DESOLDERING TIPS FOR DS40

Weller No.	Hole Dia., In.	Net Each, Lots of 1-11	12-47	48 Up	Weller No.	Hole Dia., In.	Net Each, Lots of 1-11	12-47	48 Up
DST1	.038	$1.35	$1.20	$1.10	DST4	.063	$1.35	$1.20	$1.10
DST2	.046	1.35	1.20	1.10	DST5	.078	1.35	1.20	1.10
DST3	.059	1.35	1.20	1.10	DST6	.090	1.35	1.20	1.10

WELLER SOLDERING IRONS ARE AVAILABLE WITH 3-WIRE CORDS. WRITE FOR PRICES.

Weller® Professional Tools

SERIES MP MINIATURE SOLDERING STATION

Designed for PC electronics, and for fast and economical production soldering. Closed loop temperature control system with low voltage output. Non-burnable cord; replaceable tips in wide range of configuration. New plug-in pencil for maximum flexibility and reduced maintenance cost.

Weller No.	Description	Qty./ Box	Net Each, Lots of 1-11	12-23	24 Up
MP116	650° F miniature soldering station	1	$44.95	$40.45	$35.95
MP117	750° F miniature soldering station	1	44.95	40.45	35.95
MP101	MP power unit	1	28.35	25.50	22.70
MP106	650° F soldering pencil	1	17.50	15.75	14.00
MP107	750° F soldering pencil	1	17.50	15.75	14.00
MP202	Sponge	10	.75	.75	.75
MP203	Funnel	1	.75	.75	.75
MP204	Iron holder assembly	1	1.50	1.50	1.50

REPLACEMENT TIPS FOR SERIES MP AND SERIES W-MCP

Weller No.	Reach, Inches	Description	Net Each, Lots of 1-24	25-99	100 Up
MP1MP	1/2"	.020" micro pt.	$1.50	$1.35	$1.20
MP2C	3/8"	1/32" bent chisel	1.50	1.35	1.20
MP2S	1/2"	1/32" single flat 45°	1.50	1.35	1.20
MP3C	3/8"	3/64" bent chisel	1.50	1.35	1.20
MP3S	1/3"	3/64" single flat 45°	1.50	1.35	1.20
MP4C	.....	1/16" narrow screwdriver	1.50	1.35	1.20
MP5C	3/8"	5/64" chisel	1.50	1.35	1.20
MP8C	3/8"	1/8" chisel	1.50	1.35	1.20

MODEL W-TCP-2 CONTINUOUSLY VARIABLE TEMPERATURE PENCIL

Small and lightweight, ideal for low temperature, miniature soldering applications. Continuously variable temperature, controlled at tip, from 200° F to 450° F, with SCR and thermistor control circuit. Simply dial temperature needed for a specific job. Rated 30 watts; operates from 24 V isolated winding at power unit for safety. Complete with 1/16" premium plated screwdriver tip and power unit. Operates from 120 VAC, 50-400 Hz (230/250 V available on request, at same price).

Weller No. W-TCP-2—
Net Each, Lots 1-11.....**$82.50**; 12-23.....**$74.25**; 24 Up.....**$66.00**
Weller No. STA (1/32" single flat) **or STB** (1/16" screwdriver) **Replacement Tip**—For W-TCP-2. Net Each, Lots 1-24.....**$2.00**; 25-99.....**$1.80**; 100 Up.....**$1.60**

DESOLDER AND SOLDER STATION

Power vacuum desoldering station designed for PC board repair. Closed loop temperature control protects sensitive components. See-thru solder is easy to clean or replace. Non-burnable cord for safety and long life. High impact resistant tool handles and stainless steel barrels. Operates from factory air and line voltage. Complete with foot switch, indicating light/on-off switch, twin safety tool holder, vacuum adjustment and gauge, tip and sponge holder, five assorted tips and instruction manual. Beige with blue tool handles.

Weller No.	Description	Net Each
DS100	Desolder and solder station; 1 per box	$300.00
DS101	Soldering iron; 1 per box	18.75
DS102	Desoldering iron; 1 per box	32.25
DS103	Collector tube; 5 per box	1.80
DS104	Clean out tool; 5 per box	1.80
DS105	Sponge holder with sponge and tool; 1 per box	6.75
DS106	Sponge; 10 per box	1.15
DS107	Tool holder; 1 per box	26.25
DS108	Retainer springs; 5 per box	1.15
DS109	Power unit with foot switch; 1 per box	262.50
DS201	Fuses; 5 per card	.40
DS202	Installation kit; 1 per box	19.15
SW60	Switch assembly; 1 per box	4.15
HE60	Heating element; 1 per box	3.75
BA60	Barrel nut assembly; 1 per box	1.50
DS209	Desoldering head 700° with spring; 1 per box	15.75
DS204	Filter sponge; 10 per box	.40

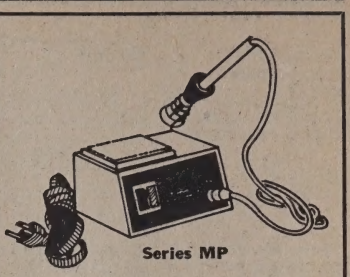
REPLACEMENT TIPS FOR SOLDER AND DESOLDER STATION

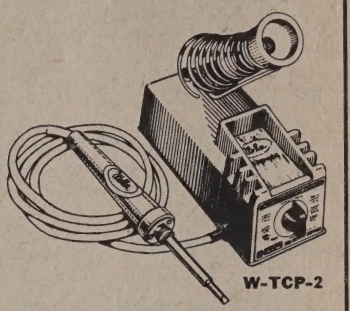
Weller No.	Size*, Inches	Net Each	Weller No.	Size*, Inches	Net Each
DS110	.060 x .025 x .50	$3.00	DS114	.125 x .071 x .50	$3.00
DS111	.090 x .025 x .50	3.00	DS115	.060 x .025 x .75	3.00
DS112	.076 x .036 x .50	3.00	DS116	.098 x .045 x .75	3.00
DS113	.098 x .045 x .50	3.00	DS117	.090 x .025 x .75	3.00

*O.D. x I.D. x Length; all tips packed 5 per card.

MINI-SHOP KIT

Mini-Shop kit (37 pieces) contains: Mini-Shop power unit, storage case, owner's guide, accessory caddy, 8 grinding/sharpening bits, 3 polishing wheels, 4 cleaning bits, 8 abrasive discs, 3 abrasive bands, expanding drum, drill bit, mandrel, chuck wrench, dressing stone, plastic polish, and jeweler's rouge. Packed 3 per carton. Weight per carton, 8½ lbs.
Weller Mini-Shop Kit Model 600K—Net Each, Lots of 1-2.....**$36.60**
Net Each, Lots of 3-5.....**$32.95**; 6 Up.....**29.30**


Series MP


W-TCP-2

DS100

600K

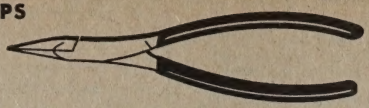
MINI-SHOP ACCESSORIES

Weller No.	Description	Net Each
GM67	1½" mandrel	$0.75
GB149	Brush (bristle)	.75
GW116	Stone-mounted medium drum	.75
GP67	Mounted point	.75
GP64	Stone-mounted round nose	.75
GW112	Stone-mounted large drum	.75
GB151	Brush (bristle disc)	.75
GP65	Stone-mounted round cone	.75
GB148	Bristle brush ¼" dia.	.75
GB150	Brush (wire)	.75
GW113	Stone-mounted (disc)	.75
GW109	Felt wheel; 6 per pack	.75
GW107	Rubber abrasive wheel; 2 per pack	.75
GW108	Cotton wheel; 2 per pack	.75
GS248	Dressing stone	.75
GD13	Expanding drum	.75
GB152	Abrasive band—50 grit; 6/pack	.75
GB153	Abrasive band—80 grit; 6/pack	$0.75
GB154	Abrasive band—120 grit; 6/pack	.75
GD12	⅛" high speed drill	.75
GW115	Stone-mounted cylinder	.75
GP66	Stone-mounted round faced disc	.75
GW117	Wrench	.75
GD9	Standing disc 80 grit; 12/pack	.75
GD10	Standing disc 120 grit; 12/pack	.75
GW106	Cutoff wheel (abrasive) light metal; 3 per pack	.75
GC239	Saw (⅜" dia. x 1/16" thick)	1.50
GC238	Cutter, Cylinder ¼" dia. x ⅛" lg.	1.50
GC247	Cutter, Cone ¼" dia. x ½" lg.	1.50
GC245	Cutter, Ball ¼" dia.	1.50
G29	Safety goggles	2.25
GC240	⅛" collet	.75
GC241	3/32" collet	.75

XCELITE® Professional Hand Tools

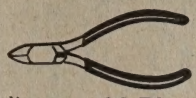
PLIERS AND SNIPS

CHAIN NOSE ELECTRICIAN'S PLIERS



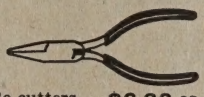
Xcelite No. 59CG—8″ pliers with long reach and high leverage. Rugged construction..... **$7.88 ea.**

DIAGONAL PLIERS



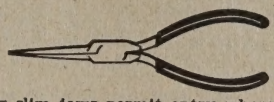
Xcelite No. 64CG—4″ electronic diagonal pliers..... **$8.56 ea.**
Xcelite No. 54CG—Midget 4″ size..... **6.52 ea.**
Xcelite No. 55CG—5″ pliers for most cutting needs... **6.82 ea.**
Xcelite No. 66CG—6″ all-purpose..... **7.51 ea.**
Xcelite No. 67CG—7″ heavy duty..... **7.51 ea.**

LONG NOSE PLIERS



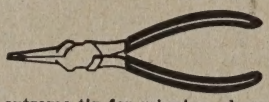
Xcelite No. 41CG—Midget 4″ without side cutters... **$6.32 ea.**
Xcelite No. 52CG—6½″ long nose, without side cutters. **5.85 ea.**
Xcelite No. 51CG—6½″ long nose, with side cutters.. **7.28 ea.**

NEEDLE NOSE PLIERS



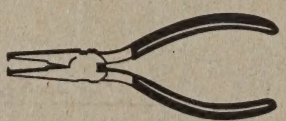
Xcelite No. 56CG—6″ size. Long slim jaws permit entry where regular long nose pliers won't work..... **$6.91 ea.**
Xcelite No. 57CG—5½″ pliers with fine serrated jaws and coil spring. For firm gripping and looping of wire..... **$8.25 ea.**

RADIO AND TV PLIERS



Xcelite No. 58CG—6″ pliers with extreme tip for gripping, sharp 5/16″ cutting edges 3/16″ back from tip..... **$9.18 ea.**
Xcelite No. 69CG—5″ fine pointed pliers with serrated tips for delicate work. Sharp 5/16″ cutting edges 1/8″ back from tips for fine wires..... **$10.96 ea.**

TRANSVERSE CUTTING PLIERS

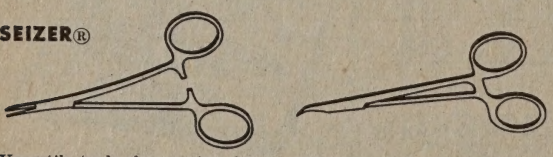


Xcelite No. 62CG—6″ cutter for flush cutoff and use where ordinary pliers won't reach. Coil spring opener..... **$8.67 ea.**

ELECTRONIC SNIPS

Designed to cut fine wire, filament and light sheet metal. Coil springs.
Xcelite No. 86CG—Pointed 1½″ blade..... **$6.35 ea.**

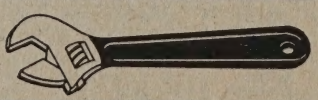
SEIZER®



Versatile tools clamp wires for soldering, act as heat sinks.

Xcelite No.	Description	Ea.
42H	6″ Straight Nose Seizer	$6.77
43H	6″ Curved Nose Seizer	6.96
32H	5″ Straight Nose Jr. Seizer	6.65
33H	5″ Curved Nose Jr. Seizer	6.77

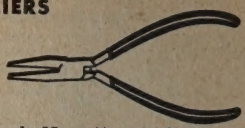
ADJUSTABLE WRENCHES



Xcelite No.	Length	Max. Opening	Ea.
44C	4″	½″	$5.56
44CG	4″	½″	6.29
46C	6″	¾″	5.73
46CG	6″	¾″	6.37
48C	8″	15/16″	6.51
48CG	8″	15/16″	7.24

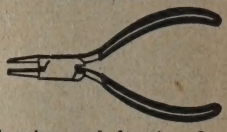
MINIATURE ELECTRONIC PLIERS

FLAT NOSE PLIERS



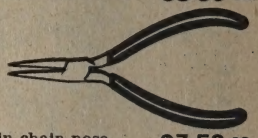
Xcelite No. 70CG—5″ long for fine work. No cutters.. **$7.65 ea.**

ROUND NOSE PLIERS



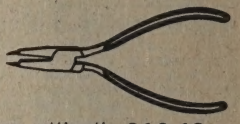
Xcelite No. 71CG—4½″ long. For looping and forming fine wires..... **$8.39 ea.**

CHAIN NOSE PLIERS



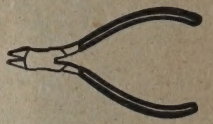
Xcelite No. 72CG—5″ long with thin chain nose..... **$7.58 ea.**

SPECIAL TIP CUTTING PLIERS



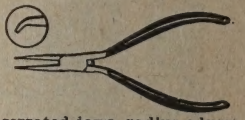
Xcelite No. 73CG—4½″ long. 45° oblique cutting tip. **$10.42 ea.**

DIAGONAL CLOSE AND FLUSH CUTTING PLIERS



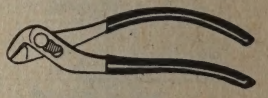
Xcelite No. 74CG—4″ long for fast, clean tip cutting. Fine tapered nose and near-flush cutting edges..... **$9.11 ea.**
Xcelite No. 84CG—4″ full flush cutting, thin tapered jaws and pointed nose..... **$9.01 ea.**
Xcelite No. 95CG—5″ full flush cutting with pointed nose ..... **$9.40 ea.**

BENT THIN CHAIN NOSE PLIERS



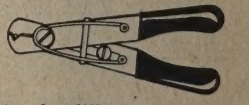
Xcelite No. 79CG—5″ long with fine serrated jaws, radius edges; 60° angle thin bent nose..... **$9.24 ea.**

ADJUSTABLE UTILITY PLIERS



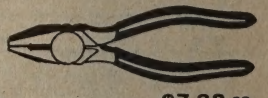
Xcelite No. 50CG—5″ slip joint ignition pliers..... **$4.12 ea.**
Xcelite No. 53CG—7″ utility plier..... **6.15 ea.**
Xcelite No. 63CG—10″ utility plier..... **8.37 ea.**

WIRE, COAX STRIPPERS AND CUTTERS



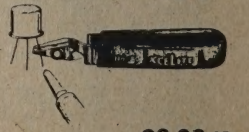
Xcelite No. 100—Adjustable screw stop for different wire sizes, cushion grips. Cuts and strips both solid and stranded wire, cleanly and neatly. Hardened and ground blades..... **$1.80 ea.**
Xcelite No. 101-S—Same as No. 100 except with spring equipped self-opening handles..... **$2.34 ea.**
Xcelite No. 103-S—Unique cam stop adjustment for different wire sizes..... **$2.93 ea.**

SIDE CUTTING PLIERS



Xcelite No. 60CG—6″ Electrician's..... **$7.38 ea.**
Xcelite No. 68CG—8″ Lineman's..... **8.86 ea.**

HEAT SINK



Xcelite No. 80—Heat Sink..... **$2.00 ea.**

ALL PLIERS, SNIPS AND WRENCHES AVAILABLE WITH COMFORTABLE "CUSHION GRIP" (CG) HANDLES AS STANDARD

ROUND BLADE SCREWDRIVERS (For Slotted Screws)

Blades forged from tough AISI 6150 chrome vanadium steel. Shockproof, breakproof, amber plastic handles.

POCKET CLIP STYLE

Xcelite No.	Blade	Handle	Overall	1-9, ea.	10Up,ea.
R3322	3/32" x 2"	1/2" x 2 1/4"	4 1/4"	$0.56	$0.50
R3323	3/32" x 3"	1/2" x 2 1/4"	5 1/4"	.61	.54
R3324	3/32" x 4"	1/2" x 2 1/4"	6 1/4"	.64	.57
R181	1/8" x 2"	1/2" x 2 1/4"	4 1/4"	.56	.50
R183	1/8" x 3"	1/2" x 2 1/4"	5 1/4"	.61	.54
R184 1/2	1/8" x 4"	1/2" x 2 1/4"	6 1/4"	.64	.57

REGULAR

Xcelite No.	Blade	Handle	Overall	1-9, ea.	10Up,ea.
R182	1/8" x 2"	3/4" x 2 5/8"	4 5/8"	$0.64	$0.57
R184	1/8" x 4"	3/4" x 2 5/8"	6 5/8"	.71	.63
R186	1/8" x 6"	3/4" x 2 5/8"	8 5/8"	.79	.71
R188	1/8" x 8"	3/4" x 2 5/8"	10 5/8"	.96	.86
R1810	1/8" x 10"	3/4" x 2 5/8"	12 5/8"	1.06	.95
R5323	5/32" x 3"	3/4" x 2 5/8"	5 5/8"	.79	.71
R5324	5/32" x 4"	3/4" x 2 5/8"	6 5/8"	.79	.71
R5325	5/32" x 5"	3/4" x 2 5/8"	7 5/8"	.88	.78
R5328	5/32" x 8"	3/4" x 2 5/8"	10 5/8"	1.06	.95
R3163	3/16" x 3"	7/8" x 3 5/8"	6 5/8"	1.03	.92
R3164	3/16" x 4"	7/8" x 3 5/8"	7 5/8"	1.10	.98
R3166	3/16" x 6"	7/8" x 3 5/8"	9 5/8"	1.23	1.10
R3168	3/16" x 8"	7/8" x 3 5/8"	11 5/8"	1.38	1.23
R31610	3/16" x 10"	7/8" x 3 5/8"	13 5/8"	1.65	1.47
R142	1/4" x 2"	1 1/16" x 4 1/8"	6 1/8"	1.26	1.13
R144	1/4" x 4"	1 1/16" x 4 1/8"	8 1/8"	1.45	1.29
R146	1/4" x 6"	1 1/16" x 4 1/8"	10 1/8"	1.57	1.40
R148	1/4" x 8"	1 1/16" x 4 1/8"	12 1/8"	1.70	1.52
R1410	1/4" x 10"	1 1/16" x 4 1/8"	14 1/8"	1.77	1.58
R5164	5/16" x 4"	1 1/4" x 4 1/4"	7 5/8"	1.65	1.47
R5166	5/16" x 6"	1 1/4" x 4 1/4"	9 5/8"	1.77	1.58
R5168	5/16" x 8"	1 1/4" x 4 1/4"	12 1/2"	1.68	1.68
R388	3/8" x 8"	1 3/8" x 4 1/2"	12 1/2"	2.57	2.30

PHILLIPS TYPE SCREWDRIVERS

Chrome vanadium steel blades. Precision points. Shockproof, breakproof, amber plastic handles.

POCKET CLIP STYLE

Xcelite No.	Point	Blade	Handle	Overall	1-9 ea.	10 Up ea.
P12S	#0	1/8" x 2"	1/2" x 2 1/4"	4 1/4"	$0.71	$0.63

STUBBY STYLE

Xcelite No.	Point	Blade	Handle	Overall	1-9 ea.	10 Up ea.
SX101	#1	3/16" x 1 7/16"	7/8" x 1 1/2"	2 15/16"	$1.10	$0.98
SX102	#2	1/4" x 1 5/16"	1 1/16" x 2"	3 5/16"	1.23	1.10

REGULAR

Xcelite No.	Point	Blade	Handle	Overall	1-9 ea.	10 Up ea.
X100	#0	1/8" x 2"	3/4" x 2 1/2"	4 5/8"	$0.79	$0.71
X101	#1	3/16" x 3"	7/8" x 3 5/8"	6 5/8"	1.18	1.05
X108	#1	3/16" x 6"	7/8" x 3 5/8"	9 5/8"	1.38	1.23
X102	#2	1/4" x 4"	1 1/16" x 4 1/8"	8 1/8"	1.45	1.29
X103	#3	5/16" x 6"	1 1/16" x 4 1/8"	10 1/2"	2.12	1.89
X104	#4	3/8" x 8"	1 3/8" x 4 1/2"	12 1/2"	2.66	2.37

EXTRA LONG

Xcelite No.	Point	Blade	Handle	Overall	1-9 ea.	10 Up ea.
X1010	#1	3/16" x 10"	7/8" x 3 5/8"	13 5/8"	$1.77	$1.58
X1020	#2	1/4" x 10"	1 1/16" x 4 1/8"	14 1/8"	2.00	1.79

"SUPER-TRU" PHILLIPS SCREWDRIVERS

Precision made Phillips screwdrivers have "Super-Tru" tips for close fit, long wear, and reduced possibility of damage to screw head recesses, especially in small size fasteners. Bright nickel chrome blades with tips specially treated and black-oxide finished for ultimate dimensional control. Black plastic handles.

Xcelite No.	Point	Blade	Handle	Overall	1-9 ea.	10 Up ea.
XST-100	0	1/8" x 2"	3/4" x 2 5/8"	4 5/8"	$1.00	$0.89
XST-101	1	3/16" x 3"	7/8" x 3 5/8"	6 5/8"	1.38	1.23
XST-102	2	1/4" x 4"	1 1/16" x 4 1/8"	8 1/8"	1.73	1.55
XST-1010	1	3/16" x 10"	7/8" x 3 5/8"	13 5/8"	2.09	1.86
XST-1020	2	1/4" x 10"	1 1/16" x 4 1/8"	14 1/8"	2.31	2.06

COLOR-CODED NUTDRIVERS (1 1/4" Hole Depth)

Steel shafts with precision, cold-drawn, case-hardened sockets. Color-coded, plastic handles.

MIDGET POCKET CLIP STYLE

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-9 ea.	10 Up ea.
P3	Blue	3/32"	1 1/4"	1/2" x 2 1/4"	3 1/2"	$0.79	$0.71
P4	Red	1/8"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P5	Amber	5/32"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P6	Black	3/16"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P7	Brown	7/32"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P8	Red	1/4"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P9	Orange	9/32"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P10	Amber	5/16"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P11	Green	11/32"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71
P12	Blue	3/8"	1 1/4"	1/2" x 2 1/4"	3 1/2"	.79	.71

REGULAR

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-9 ea.	10 Up ea.
6	Black	3/16"	3"	1" x 3 1/8"	6 1/8"	$1.16	$1.30
7	Brown	7/32"	3"	1" x 3 1/8"	6 1/8"	1.16	1.30
8	Red	1/4"	3"	1" x 3 1/8"	6 1/8"	1.16	1.30
9	Orange	9/32"	3"	1" x 3 1/8"	6 1/8"	1.16	1.30
10	Amber	5/16"	3"	1" x 3 1/8"	6 1/8"	1.16	1.30
11	Green	11/32"	3"	1" x 3 1/8"	6 1/8"	1.16	1.30
12	Blue	3/8"	3"	1" x 3 1/8"	6 1/8"	1.16	1.30
14	Brown	7/16"	2 5/8"	1 1/16" x 4 1/8"	6 3/4"	1.47	1.65
16	Red	1/2"	2 5/8"	1 1/16" x 4 1/8"	6 3/4"	1.47	1.65

COLOR-CODED HOLLOW SHAFT NUTDRIVERS

General purpose nutdrivers especially useful where nuts must be installed over long protruding bolts or studs.

REGULAR

(HOLE DEPTHS: HS6 and 7, 5 1/2"; HS8-12, 4 3/8"; HS14-22, 6")

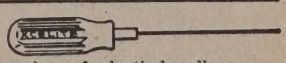
Xcelite No.	Color	Hex	Blade	Handle	Overall	1-9 ea.	10 Up ea.
HS6	Black	3/16"	3 1/8"	1" x 3 1/8"	6 1/4"	$1.48	$1.32
HS7	Brown	7/32"	3 1/8"	1" x 3 1/8"	6 1/4"	1.48	1.32
HS8	Red	1/4"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.48	1.32
HS9	Orange	9/32"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.48	1.32
HS10	Amber	5/16"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.48	1.32
HS11	Green	11/32"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.48	1.32
HS12	Blue	3/8"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.48	1.32
HS14	Brown	7/16"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.73	1.55
HS16	Red	1/2"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.73	1.55
HS18	Orange	9/16"	3 1/8"	1 1/16" x 4 1/8"	7 1/4"	1.77	1.58
HS20	Amber	5/8"	3 1/8"	1 1/8" x 4 1/2"	7 5/8"	2.04	1.82
HS22	Amber	11/16"	3 1/8"	1 1/8" x 4 1/2"	7 5/8"	3.36	3.00

EXTRA LONG

(HOLE DEPTH: A6-12, 6 3/4")

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-9 ea.	10-Up ea.
A6	Black	3/16"	6 1/2"	1" x 3 1/8"	9 1/8"	$1.80	$1.61
A8	Red	1/4"	6 1/2"	1" x 3 1/8"	9 1/8"	1.80	1.61
A10	Amber	5/16"	6 1/2"	1" x 3 1/8"	9 1/8"	1.80	1.61
A11	Green	11/32"	6 1/2"	1" x 3 1/8"	9 1/8"	1.80	1.61
A12	Blue	3/8"	6 1/2"	1" x 3 1/8"	9 1/8"	1.80	1.61

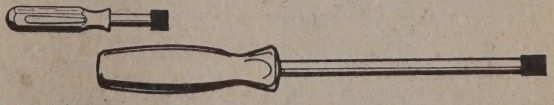
ALLEN HEX TYPE SCREWDRIVERS



Alloy steel blades. Shockproof, breakproof, plastic handles.

No.	Hex	Blade	Handle	Overall	1-9 ea.	10 Up ea.
LN-20	.050"	4"	3/4" x 2 5/8"	6 3/8"	$1.15	$1.02
LN-21	1/16"	4"	3/4" x 2 5/8"	6 3/8"	1.15	1.02
LN-22	5/64"	4"	3/4" x 2 5/8"	6 3/8"	1.15	1.02
LN-23	3/32"	4"	1" x 3 1/8"	7 1/8"	1.15	1.02
LN-764	7/64"	4"	1" x 3 1/8"	7 1/8"	1.15	1.02
LN-24	1/8"	4"	1" x 3 1/8"	7 1/8"	1.23	1.10
LN-964	9/64"	4"	1" x 3 1/8"	7 1/8"	1.23	1.10
LN-25	5/32"	4"	1" x 3 1/8"	7 1/8"	1.23	1.10
LN-26	3/16"	6"	1 1/16" x 4 1/8"	10 1/8"	1.23	1.10
LN-27	7/32"	6"	1 1/16" x 4 1/8"	10 1/8"	1.38	1.23
LN-28	1/4"	6"	1 1/16" x 4 1/8"	10 1/8"	1.38	1.23

MAGNETIC HEX NUTDRIVERS

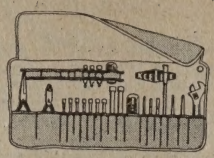


Nut and hex screw holding.

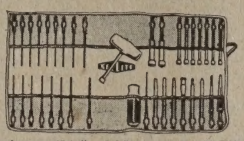
Xcelite No.	Color	Hex	Blade	Overall	1-9 ea.	10 Up ea.
8-M	Red	1/4"	3"	7"	$2.09	$1.86
10-M	Amber	5/16"	3"	7"	2.09	1.86
A-8M	Red	1/4"	6"	10"	2.62	2.34
A-10M	Amber	5/16"	6"	10"	2.62	2.34

Xcelite No.	Color	Hex	Blade	Overall	1-4 ea.	5 Up ea.
AA-8M	Red	1/4"	16 3/4"	20 3/4"	$6.07	$5.42
AA-10M	Amber	5/16"	16 3/4"	20 3/4"	6.07	5.42

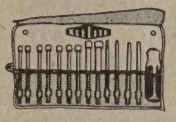
SERIES 99 SERVICE KITS



Xcelite No. 99SM—23-Piece Service Master Kit—Durable, plastic-coated canvas case contains 6" long nose "Cushion Grip" pliers, 5" diagonal "Cushion Grip" pliers, 6" thin-pattern adjustable wrench, regular (1 1/16" x 4 1/8") and stubby (1 1/16" x 2") plastic handles for interchangeable blades, 9 regular (3/16" thru 1/2") and 3 stubby (1/4", 5/16", 3/8") nutdriver blades, a #1 Phillips screwdriver blade, 3/16" and 1/4" slotted screwdriver blades, 1/8" to 3/8" and 1/4" to 1/2" reamer blades, 7" extension blade..... **$39.00 ea.**



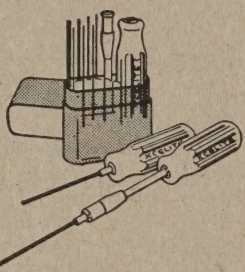
Xcelite No. 99MP—39-Piece Multi-Purpose Kit—Plastic-coated canvas case folds into compact package. Kit includes regular (1 1/16" x 4 1/8") and Tee (1" x 3 3/8") plastic handles and following interchangeable blades: 10 nutdriver (5/32" thru 1/2"), 9 Allen hex type screwdriver (.050" thru 3/16"), 9 Bristol Multiple-Spline screwdriver (.048" thru .183"), 3 slotted screwdriver (3/16", 1/4" and 5/16"), 2 Phillips screwdriver (#1 and #2), 2 reamers (1/8" to 3/8" and 1/4" to 1/2"), awl and 4" extension..... **$39.20 ea.**



Xcelite No. 99PR—14-Piece Nutdriver/ Screwdriver Kit—Regular size (1 1/16" x 4 1/8") Series 99 handle and following blades: 9 nutdriver (3/16" thru 1/2"), 3/16" and 1/4" slotted screwdriver, #1 and #2 Phillips screwdriver. Roll-up plastic case. ..... **$13.20 ea.**

SERIES 99 COMPACT SETS

Pocket size, plastic cases pack an unusual number of tools into a small space. Flat bottom of case permits its use as bench stand. Series 99 blades are interchangeable in handle supplied with each set.

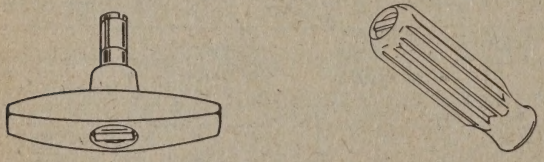


Xcelite No. 99PS-40—11-Piece Allen Hex Type Screwdriver Set—Regular size (1 1/16" x 4 1/8") Series 99 handle, 9 Allen hex type screwdriver blades (.050" thru 3/16"), 4" extension blade..... **$9.75 ea.**

Xcelite No 99PS-50—14-Piece Nutdriver/Screwdriver Set—Regular size (1 1/16" x 4 1/8") Series 99 handle and following blades: 7 nutdriver (3/16" thru 3/8"), 3/16" and 1/4" slotted screwdriver, #1 and #2 Phillips screwdriver, 4" extension..... **$11.95 ea.**

Xcelite No. 99PS-60—11-Piece Bristol Screwdriver Set—For Bristol Multiple-Spline socket screws. Regular size (1 1/16" x 4 1/8") Series 99 handle, 9 Bristol screwdriver blades (.048"/4-flute thru .183"/6-flute), 4" extension blade..... **$9.75 ea.**

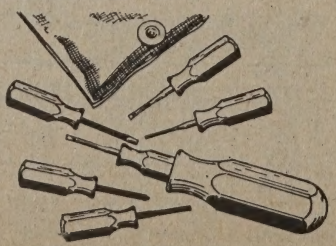
SERIES 99 REVERSIBLE RATCHET HANDLES



Unique plastic ratcheting handles fit over 60 different Xcelite blades—nutdrivers, screwdrivers and special purpose interchangeable blades—to speed up assembly and service work. Ratchet mechanism is fully enclosed to keep out dirt and grit. Recessed reversing shift is easily operated by a flick of the thumb; cannot be accidentally tripped while driving. Light ratchet drag for easy turning. Mechanism is fully contained within handle.

Xcelite No.	Description	Color	Size	1-4 ea.	5 Up ea.
99-1-R	Ratchet handle	Black	1 1/4" x 4 1/2"	$7.21	$6.44
99-4-R	Ratchet handle	Black	3 1/2" x 2 3/8"	7.21	6.44

MINI SCREWDRIVER SETS



Xcelite No. M-50—Five piece miniature jewelers type slotted screwdriver set containing sizes .040" thru .100"; 7/8" blade lengths; 2 1/2" overall ..... **$2.34 ea.**

Xcelite No. M-60—Six piece miniature screwdriver set includes one #00 Phillips driver, 5 slotted drivers (.040" thru .100") and torque amplifier handle. 7/8" blade lengths; 2 1/2" overall ..... **$3.11 ea.**

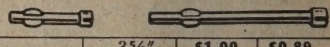
SERIES 99 HANDLES & INTERCHANGEABLE BLADES

Shockproof, breakproof plastic handles have patented spring device that holds blades firmly yet permits easy insertion and removal.

HANDLES

Xcelite No.	Size and Description	Working Length	1-4 ea.	5 Up ea.
99-1	Regular, 1 1/16" x 4 1/8"	.....	$1.06	$0.95
99-3	Stubby, 1 1/16" x 2"	.....	1.00	.89
99-4	Tee, 1" x 3 3/8"	.....	1.38	1.23

NUTDRIVERS

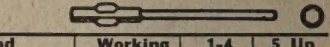


99-5	5/32"	3 5/8"	$1.00	$0.89
99-6	3/16"	3 5/8"	1.00	.89
99-7	7/32"	3 5/8"	1.00	.89
99-8	1/4"	3 5/8"	1.00	.89
99-S8	1/4" Stubby	1 3/8"	.79	.71
99-9	9/32"	3 5/8"	1.00	.89
99-10	5/16"	3 5/8"	1.00	.89
99-S10	5/16" Stubby	1 3/8"	.79	.71
99-11	11/32"	3 5/8"	1.00	.89
99-12	3/8"	3 5/8"	1.00	.89
99-S12	3/8" Stubby	1 3/8"	.79	.71
99-14	7/16"	4"	1.18	1.05
99-16	1/2"	4"	1.18	1.05

MAGNETIC NUTDRIVERS

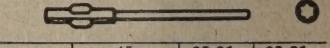
99-8M	1/4"	3 3/8"	$1.57	$1.40
99-10M	5/16"	3 3/8"	1.57	1.40

ALLEN HEX TYPE SCREWDRIVERS



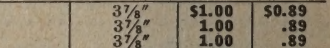
Xcelite No.	Size and Description	Working Length	1-4 ea.	5 Up ea.
99-20	.050"	4"	$0.91	$0.81
99-21	1/16"	4"	.91	.81
99-22	5/64"	4"	.91	.81
99-23	3/32"	4"	.91	.81
99-764	7/64"	4"	.91	.81
99-24	1/8"	4"	.91	.81
99-964	9/64"	4"	.91	.81
99-25	5/32"	4"	.91	.81
99-26	3/16"	4"	.91	.81

BRISTOL TYPE MULTIPLE-SPLINE SCREWDRIVERS



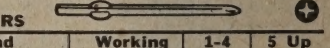
99-61	.048", 4-flute	4"	$0.91	$0.81
99-62	.060", 6-flute	4"	.91	.81
99-63	.069", 4-flute	4"	.91	.81
99-64	.072", 6-flute	4"	.91	.81
99-65	.076", 4-flute	4"	.91	.81
99-66	.096", 6-flute	4"	.91	.81
99-67	.111", 6-flute	4"	.91	.81
99-68	.145", 6-flute	4"	.91	.81
99-69	.183", 6-flute	4"	.91	.81

SLOTTED SCREWDRIVERS



99-125	1/8"	3 7/8"	$1.00	$0.89
99-811	3/16"	3 7/8"	1.00	.89
99-250	1/4"	3 7/8"	1.00	.89
99-312	5/16"	3 7/8"	1.00	.89

PHILLIPS SCREWDRIVERS

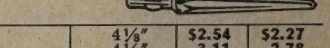


Xcelite No.	Size and Description	Working Length	1-4 ea.	5 Up ea.
99-820	#0	3 7/8"	1.00	$0.89
99-821	#1	3 7/8"	1.00	.89
99-822	#2	3 7/8"	1.00	.89

SCRULOX® SCREWDRIVERS

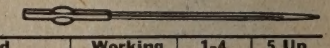
99-SL-0	#0	4"	$1.00	$0.89
99-SL-1	#1	4"	1.00	.89
99-SL-2	#2	4"	1.00	.89
99-SL-3	#3	4"	1.00	.89

REAMERS



99-38	1/8" to 3/8"	4 1/8"	$2.54	$2.27
99-39	1/4" to 1/2"	4 1/8"	3.11	2.78

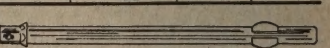
AWL/SCRIBER



Xcelite No.	Size and Description	Working Length	1-4 ea.	5 Up ea.
99-70	Awl/Scriber	4 1/2"	$0.96	$0.86

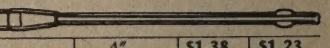
ADAPTERS

For use with 1/4" square drive sockets.



99-X4	Extension	Adds 3"	$1.00	$0.89

EXTENSION BLADES



99-X5	Extension	4"	$1.38	$1.23
99-X10	Extension	7"	1.48	1.32

"TRAY BIEN" NUTDRIVER SETS

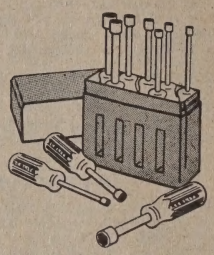
Durable, molded plastic trays with fold-away stand, wall-mounting holes and snap-lock arrangement to hold tools firmly. Nutdrivers have color-coded, shockproof, breakproof plastic handles. Precision, case-hardened sockets.

Xcelite No. 127TB—Seven nutdrivers (3/16" thru 3/4" hex sizes) with 1 1/4" deep bolt clearance hole in shaft.....**$8.85 ea.**

Xcelite No. 137TB—Five nutdrivers (3/16" thru 3/8" hex sizes) with 1 1/4" deep bolt clearance hole; 2 hollow shaft (1/2" and 9/16" hex sizes) nutdrivers.....**$9.98 ea.**

Xcelite No. 147TB—Seven hollow shaft (1/4" thru 1/2" hex sizes) nutdrivers.....**$11.10 ea.**

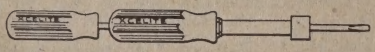
"KEEP AND CARRY" NUTDRIVER SET



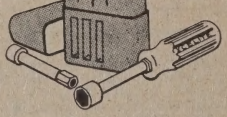
Sturdy yellow plastic case keeps color-coded nutdrivers in order on workbench. Tight fitting, snap-lock covers permit carry-out convenience without spilling or losing them in tool box.

Xcelite No. HS6-18 Hollow Shaft Nutdriver Set—Ten hex sizes 3/16" thru 9/16".....**$15.26 ea.**

INTERCHANGEABLE HOLLOW SHAFT NUTDRIVER SET



ADJUSTS LOCKNUT SCREWS



Plastic handle is drilled to permit running screwdriver blade through center, and down through interchangeable hollow nutdriver shafts to speed setting of locknut/screw adjustments. Eight shafts, hex sizes 3/16" thru 9/16".

Xcelite No. HSC-1.....$12.14 ea.

NUTDRIVER SETS

Popular sizes of color-coded nutdrivers in handy plastic case with eyelet for hanging.

Xcelite No. 157 7-Piece Nutdriver Set—Shafts have 1 1/4" clearance hole depth. Includes 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" and 1/2" hex sizes. Overall length, 6 1/8" except 7/16" and 1/2" sizes, 6 3/4" long. Color-coded handles.....**$8.91 ea.**

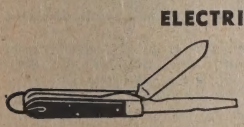
Xcelite No. 177 7-Piece Hollow Shaft Nutdriver Set—Includes 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" and 1/2" sizes. Overall, 7 1/4" except 3/16" size, 6 1/4". Shaft, 3 1/8". Color-coded handles.....**$9.98 ea.**

COMBINATION SCREWDRIVER/NUTDRIVER SET

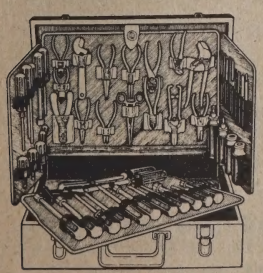
Xcelite No. 600—Handy 4-way tool with 1/4" and 7/16" hex openings in handle. Stubby blade has #1 Phillips and 3/16" slotted ends.

Lots 1–9.....**$2.54 ea.**
Lots 10 Up.....**2.27 ea.**

ELECTRICIAN'S KNIFE



Xcelite No. K22—Combination knife and screwdriver. Screwdriver blade has sharp edge for scraping insulation. Has positive lock when open.....**$6.10 ea.**

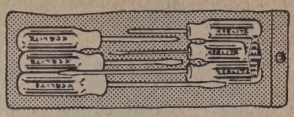


ATTACHE STYLE TOOL CASES

Quality tool cases built to last for the field engineer and technician/serviceman. Outfitted with wide variety of Xcelite screwdrivers, nutdrivers, hex drivers, pliers, wrenches, wire strippers and more. Plenty of space in bottom of case for soldering equipment, meters, test equipment, parts, etc. Tool pallets are removable. Lid has literature pocket. Two styles—TC 100/ST, illustrated, with 57 single tools and 5 sets, and TC 200/ST with fewer tools, smaller and more compact, but nevertheless a complete set of tools.

Xcelite No. TC 100/ST—Case with tools.....**$247.50 ea.**
Xcelite No. TC 100/MT—Case only.....**81.75 ea.**
Xcelite No. TC 200/ST—Case with tools.....**135.00 ea.**
Xcelite No. TC 200/MT—Case only.....**52.50 ea.**

SCREWDRIVER SETS

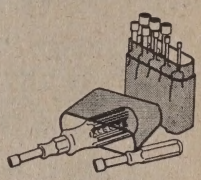


Xcelite No. SDR-11 5-Piece Screwdriver Set—Round blade for slotted screws. Includes 1/8", 5/32", 3/16", 1/4" and 5/16" blade dia. Overall, 4 5/8" to 10 1/4". Blade length, 2" to 6".....**$5.55 ea.**

Xcelite No. SDX-22 5-Piece Phillips Screwdriver Set—Includes sizes 0, 1, 2 and 3 with blade lengths from 2" to 6", overall length from 4 5/8" to 10 1/2"; plus a #2 stubby Phillips, 1 5/16" blade, 3 5/16" overall.....**$6.35 ea.**

Xcelite No. SRX-33 6-Piece Screwdriver Set—Includes four slotted types (1/8", 3/16", 1/4" and 5/16" blade dia.; 4" and 6" blade lengths; 6 5/8" to 10 1/2" overall); #1 Phillips with 3" blade, 6 5/8" overall; #2 Phillips with 4" blade, 8 1/8" overall.....**$7.29 ea.**

COMPACT SCREWDRIVER, NUTDRIVER AND HEX DRIVER SETS



Torque amplifier hollow handle slips over tops of midget tools (all 3 1/2") for larger grip, extended reach and increased driving power. See-thru plastic case fits pocket.

Xcelite No. PS7 Screwdriver/Nutdriver Set—Two (1/4", 5/16") nutdrivers; 2 slot-tip (3/32", 3/16") and 2 Phillips (#0, 1) screwdrivers.....**$6.20 ea.**

Xcelite No. PS88 Screwdriver Set—Five slot-tip (3/32", 1/8", 5/32", 3/16", 1/4"), 3 Phillips (#0, 1 and 2).....**$6.47 ea.**

Xcelite No. PS120 Nutdriver Set—Ten (3/32" thru 3/8") nutdrivers.....**$8.98 ea.**

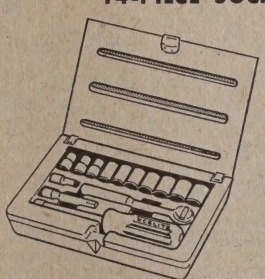
Xcelite No. PS130 Screwdriver/Nutdriver Set—Contains Phillips (#1, 2); 3 slotted (1/8", 3/16" and 1/4") and 5 (3/16" thru 3/8") nutdrivers.....**$8.61 ea.**

Xcelite No. PS89 Hex Driver Set—Contains eight midget Allen hex type drivers in sizes from .028" to 1/8".....**$6.47 ea.**

TOOL HOLSTER

Xcelite No. 150—Handy tool holster has tape holder, knife clip, and five tool pockets. Durable construction of saddle leather with natural cowhide finish. Comfortable hip-contoured back, hot-waxed stitching, brass rivets. Tools not included.....**$9.08 ea.**

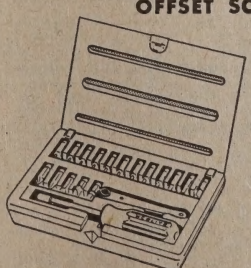
14-PIECE SOCKET WRENCH SET



Precision 1/4" square drive socket set. Sockets are hot forged from alloy steel; heat treated for long, hard wear. Rugged, streamlined design with straight sidewalls; chamfered ends for easy insertion of ratchets. Reversible ratchet mechanism is fully enclosed. Short (1/4" minimum) handle swing and small round head permits work in tight quarters. Includes nine 6-pt. sockets (3/16" to 1/2"), two 10-pt. sockets (1/4" and 5/16") for hex and square nuts, 4 3/4" reversible ratchet, 2" extension, 5 3/4" spinner/extension, high-impact molded case.

Xcelite No. 1001.$19.14 ea.

MIDGET REVERSIBLE RATCHET OFFSET SCREWDRIVER SET



All-purpose set for Allen hex type, Phillips and slotted screws. Reversible ratchet and spinner/extension can also be used with 1/4" square drive sockets, with adapter included. Bits are precision made of chrome nickel molybdenum alloy steel. Knurled spinner tops for quick finger starting of screws. Heavy-duty 20-tooth, 1/4" hex drive ratchet of stainless steel with quick action and short (18°) turning radius. Includes: 12 Allen hex type screw bits (.050" to 5/16"), two slotted screw bits, #1 and #2 Phillips bits, 3 3/4" reversible ratchet, 6" spinner extension, 1/4" hex to 1/4" square adapter; and molded, compartmented case.

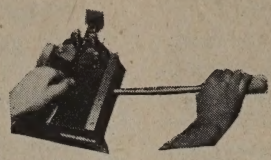
Xcelite No. XL-70.....**$15.68 ea.**

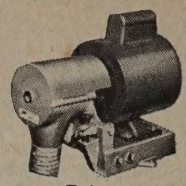
Xcelite No. XL-75 Offset Screwdriver Kit—Includes ratchet described above and four screwdriver bits (3/16" and 1/4" slotted, #1 and #2 Phillips) in plastic pocket kit.....**$4.95 ea.**

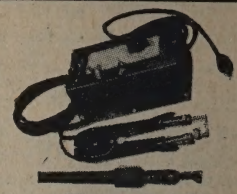
Wire Strippers

Hot Stripper

Bench


Lever


Rotary


Thermo-Strip®

HOT BLADE STRIPPER

Ideal for production stripping of Teflon, cotton, silk, plastic or rubber coverings from fine stranded or solid conductors, up to ⅜" dia. Includes simple adjustments for stripping length, wire dia., and individual blade heat. Uses foot pedal control. For 200 watt, 115 VAC, 50/60 Hz operation. Shipping Weight, 40 lbs.

Ideal No. 45-073 Hot Blade Stripper—Net Each..... $543.25

Ideal No. L-3342 Extra Blade—Net per Set..... $1.80

BENCH TYPE WIRE STRIPPER

For short-run production stripping of solid or stranded wire, up to 5/16" dia. For flat or round single conductors with plastic, rubber or cotton insulation. With one set straight blades; grooved blades available. Size: 5" x 3" x 3". Shipping Weight, 2 lbs.

Ideal No. 45-069 Bench Type Stripper—Net Each..... $55.50

LEVER TYPE CABLE STRIPPER

For stripping all types of single and parallel conductors and cables, up to ⅝" dia. Recommended for types S, SJ, SP, SPT and power cables. Hand or power actuated. Supplied with one set of straight blades; grooved blades available. Size: Without handle, 10" x 8½" x 4". Shipping Weight, 24 lbs.

Ideal No. 45-064 Lever-Type Cable Stripper—Net Ea. $193.25

ROTARY TYPE STRIPPER

For production stripping of most types of solid or stranded single conductors, up to ⅜" dia. Reversible motor drive fits natural twist of wire. Strip length adjustable from ¼" to 1¾". With 45° carbide-tipped stripping blade, plus one ⅛" and two ¼" guide bushings. Size: 12" x 7" x 8". Shipping Weight, 45 lbs. $295.00

Ideal No. 45-009 Rotary Stripper—Net Each.....

Ideal No. L-5155 Blade—45° carbide-tipped, per Set... $23.95

Ideal No. L-2440 Blade—45° high-speed steel, per Set.. 9.55

Ideal No. L-3843 Blade—90° high-speed steel, per Set.. 9.35

Ideal No. L-3844 Twisting Blade—Net per Set..... 9.35

THERMO-STRIP® WIRE STRIPPER

For critical stripping applications, where no damage to conductors or insulation is permissible. For all thermoplastic insulations, including Teflon. Heavy duty power unit may be operated continuously, with infinitely variable heat control. Available with either pincer type or probe-type single loop tool. Single loop tool is especially useful for confined areas. For 75 watt, 115 VAC, 60 Hz operation. Shipping Weight, with pincer tool and power unit, 9 lbs.

Ideal No. 45-130 Pincer Tool and Power Unit—With medium and heavy duty elements. Net Each.. $108.00

Ideal No. 45-133 Power Unit—Net Each..... $72.50

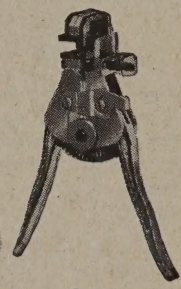
Ideal No. 45-140 Pincer Tool—Net Each..... 34.30

Ideal No. 45-141 Single Loop Tool—Net Each..... 16.60

Stripmaster®

Wire Cutter

T-5


Custom Stripmaster®

STRIPMASTER® WIRE STRIPPERS

One light squeeze strips wire clean up to ⅛". Jaws hold open for removing wire without crushing. Practically eliminates all nicking, cutting or fraying. Especially good for production stripping of lighter gauge wires, automotive wiring, radio and instrument wire and cable, aviation wire, telephone or fixture wire, etc. Blades changed by removing only two screws. Shpg. Wt., 14 oz. $8.50

Ideal Stripmaster Wire Stripper—Complete. Net Each..

Ideal Extra Blades—Net per Pair..... $2.65

Ideal No. L-5270 Adjustable Wire Stop Attachment—Net 1.50

Stripper No.	Extra Blades	For Wire	Holes	Stripper No.	Extra Blades	For Wire	Holes
45-090	L-4419	8-12	3	45-093	L-4422	14-22	4
45-091	L-4420	10-18	4	45-097	L-4994	16-26	6
45-092	L-4421	10-22	6	45-098	L-5361	20-30	6
45-095*	L-4452	16 or 18, SP & SPT Slot					

*Also strips 2- and 3-conductor low-voltage wire used in GE and Touchplate remote control wiring systems.

WIRE CUTTER

Handy wire cutter for production and assembly work. Cuts copper or aluminum wire of solid type up to #10 AWG; fine stranded cable to ½" O.D. Shear-type blades permit square, clean cut without ragged ends. Hardened steel construction with carefully ground cutting surfaces. Plastic grips on handles for sure handling. Length, 6". $2.95

Ideal No. 45-123 Wire-Cutter—Net Each.....

*Reg. DuPont trademark.

T-TYPE WIRE STRIPPERS

Hardened steel stripper for quick, easy, clean stripping of wires used in electronic instruments and appliances. Plastic grips.

Ideal No. 45-120 T-5 Wire Stripper—Strips 10, 12, 14, 16 and 18 gauge wires. Net Each..... $2.95

Ideal No. 45-121 T-6 Wire Stripper—Strips 16, 18, 20, 22, 24 and 26 gauge wires. Net Each..... $2.95

Ideal No. 45-125 T-7 Wire Stripper—Strips 22, 24, 26, 28 and 30 gauge wires. Net Each..... $3.40

CUSTOM-BUILT STRIPPER SERVICE AVAILABLE.

CUSTOM STRIPMASTER® WIRE STRIPPERS

Strips wires #10–#30 without nicking or scraping wire, without marking insulation. Fast, accurate, squeeze-release operation. For use on Teflon and other insulations. Shpg. Wt., 14 oz. $24.50

Ideal Custom Stripmaster Wire Stripper—Net Each...

Ideal Custom Stripmaster Wire Stripper—Same as above, but with stop latch and wire-stop. Net Each... $28.00

Ideal Replacement Blade Set for Above—Net per Pair.. $10.95

GENERAL PURPOSE

Stripping of plastic, Fibreglass and other hard-to-strip insulations.

Stripper No.	Stripper With Stop Latch & Wire-stop	Extra Blade Sets	For Wire	No. of Holes
45-170	45-180	L-5210	10-14	3
45-171	45-181	L-5211	16-26	6
45-172	45-182	L-5436	26-30	3

FOR TYPE EE—1000 V TEFLON* WIRE

45-173	45-183	L-5562	10-14	3
45-174	45-184	L-5563	16-26	6
45-175	45-185	L-5564	26-30	3

FOR TYPE E—600 V TEFLON WIRE

45-176	45-186	L-5559	10-14	3
45-177	45-187	L-5560	16-26	6
45-178	45-188	L-5561	26-30	3

*DuPont trademark.

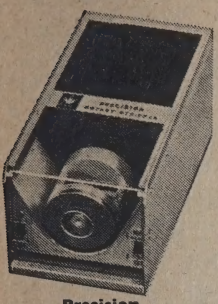
Ideal No. L-5269 Short-Stop Latch—Limits stripping stroke to 5/16". Disengages without removal to allow full ⅞" stroke. Net. $2.35

Ideal No. L-5270 Wire Stop—Adjustable. Provides uniform stripping length. Net Each..... $1.50

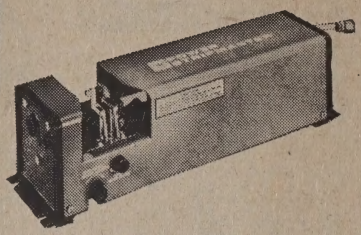
CONSULT OUR STAFF OF ELECTRONICS EXPERTS ON ALL YOUR SPECIAL EQUIPMENT OR COMPONENT NEEDS.

Wire Strippers, Soldering Tools

IDEAL WIRE STRIPPERS



Precision Rotary Stripper



Power Stripmaster®

PRECISION ROTARY WIRE STRIPPER

Provides precision, nick-free production stripping of most types of stranded or solid wire, especially Teflon, PVC and other thin insulations in wire sizes #16 to #26 AWG. Strips insulations up to 1/16" thick; wire diameters to 1/4". Simply insert wire, pull out for automatic stripping. Double-edge carbide cutting blade is mounted on leaf spring for maximum precision. Blade partially cuts insulation; then rotational force twists the slug, severing the remaining web of insulation. Blade never touches the conductor, assuring nick-free performance; adjustable in increments of .0004". Adjustable wire stop is indexed to adjust stripping length 1/8" to 1". Unit comes complete with adjustment tool, 9 1/2-ft. power cord with grounded plug, and .040" dia. wire guide. Other size wire guides available to .250"; prices on request.

Ideal No. 45-150 Precision Rotary Wire Stripper— For 115 VAC, 60 Hz. Net Each..... **$275.65**

Ideal No. L-6634 Replacement Blade Assembly—Net.. **$21.65**

IDEAL POWER STRIPMASTER®

Bench type wire stripper using Stripmaster blade concept for solid or stranded wire. Adjustable wire-guide lines up wire for proper stripping position. Variable sever length adjustment controls movement of severed insulation slug along wire from nil to 7/8". Mounting holes provided for permanent mounting. Size: 3 3/16" x 3 3/16" x 12 5/16". Operating air pressure range: 30 to 120 psi.

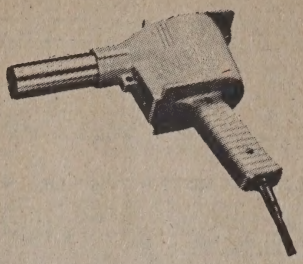
Ideal No. 45-145 Power Stripmaster—Net..... **$173.00**

Ideal No. 45-902 Foot Pedal Control—Net..... **34.00**

Ideal No. 45-903 Hook-up Kit—Net..... **11.00**

Ideal No. 45-905 Air-Blast Slug Ejector—Net..... **4.95**

IDEAL HEAT GUN



Versatile, easy-to-use heat shrink tool is designed specifically for heat shrink applications. Compact, lightweight and perfectly balanced for effortless handling. The comfortable, secure feel of its pistol-shaped grip offers the operator firm, positive control. Heat gun is versatile in design and applications. Nozzles are interchangeable; gold is standard and used for most shrinkables. Green nozzle for Mylar* and red nozzle for Teflon* are optional. Convenient three-position thumb switch provides instant control of heat output. Heat gun may be hand-held or may be placed on the work bench. It stands firmly on either side, on top, or on back. NORYL** high-impact housing makes it almost indestructible. Operation is economical in every aspect. Nozzle heating elements are designed for long life. Low-cost replacement can be easily done in seconds. Low air volume means less heat build-up in work area. Shaded-pole, brushless-type motor is rated for continuous use. Whisper-quiet operation.

*Registered DuPont trademark.

**General Electric NORYL® thermo-plastic.

Ideal No. 46-013 Heat Gun—With gold nozzle only. Net Each..... **$39.95**

NOZZLES

Ideal No. 46-921 Green Nozzle—For 46-013. Net Ea,.. **5.75**

Ideal No. 46-922 Gold Nozzle—For 46-013. Net Ea.... **5.75**

Ideal No. 46-923 Red Nozzle—For 46-013. Net Each... **5.75**

THERMO-TIP® SOLDERING EQUIPMENT

- **For subminiature soldering**
- **For production jig soldering**
- **For use in narrow spaces**

For miniature and subminiature soldering. Consists of a variety of power units with versatile, lightweight pencil grip attachment for tight places. Attachments complete with 5-ft. cord.

ELECTRODE STYLES, ACCESSORIES

DOUBLE METAL

Feed-through electrodes, adjustable for length.

Ideal No. 12-167 Pencil-Grip—1/16" Bi-Metal. Shpg. Wt., 4 oz. Net Each..... **$20.95**

Ideal No. L-5241 Replacement Electrodes—1/16" dia. x 3 1/2" lg. Shpg. Wt., 2 oz. Net per Package of 6..... **$1.25**

DOUBLE CARBON ELECTRODES

Provide more heat than metal electrodes.

Ideal No. 12-165 Pencil-Grip—1/16" Bi-Carbon. Shpg. Wt., 4 oz. Net Each..... **$23.65**

Ideal No. 12-166 Pencil-Grip—1/8" Bi-Carbon. Shpg. Wt., 4 oz. Net Each..... **$23.65**

Ideal No. L-4866 Replacement Carbons—1/16" dia. Shpg. Wt., 2 oz. Net per Package of 6..... **$2.85**

Ideal No. L-4848 Replacement Carbons—1/8" dia. Shpg. Wt., 2 oz. Net per Package of 6..... **$1.90**

SINGLE CARBON

Collet chuck holds feed-through carbon, permits adjustment. Complete with ground clamp and lead assembly for jig-soldering.

Ideal No. 12-168 Pencil-Grip—1/8" single carbon. Shpg. Wt., 9 oz. Net Each..... **$20.95**

Ideal No. L-5202 Replacement Carbon Electrodes—1/8" dia. x 3" lg. Shpg. Wt., 2 oz. Net per Package of 6..... **$5.30**

REPLACEMENT CARBON HOLDERS

For easy replacement of only parts attacked by flux corrosion. Fit double carbon attachment handles.

Ideal No. L-5246—1/16" dia. Shpg. Wt., 1 oz. each. Net Ea.. **$1.75**

Ideal No. L-5247—1/8" dia. Shpg. Wt., 1 oz. each. Net Ea.. **1.75**

SINGLE METAL

For smallest work. Collet chuck holds feed-through electrode. Complete with ground clamp and lead assembly for jig-soldering.

Ideal No. 12-169 Pencil-Grip—1/16" single metal. Shpg. Wt., 9 oz. Net Each..... **$20.95**

Ideal No. L-5241 Replacement Electrodes—1/16" dia. x 3 1/2" lg. Shpg. Wt., 2 oz. Net per Package of 6..... **$1.25**

FOOT SWITCH

Eliminates arcing at electrodes on contact. Permits using electrodes to hold work in position after turning off heat. Size, 3 5/8" dia. x 1 1/8" h. Rated 5 amps, 115 V. Wired normally open. Complete with 6-foot, 3-conductor grounded cord and plug. Shpg. Wt., 12 oz.

Ideal No. 12-146 Foot Switch—Net Each..... **$15.50**

THERMO-TIP® POWER UNITS

Power units for resistance soldering of small parts with no heat damage or cold-flow joints.

125 WATT POWER UNIT

For light production and intermittent work. Selector switch for choice of three heats: 3.0 V, 4.5 V or 6.3 V. Complete with 5-foot grounded cord and plug, and clip for holding pencil style attachments. 115 V, 60 Hz. Shipping Weight, 4 lbs. UL Listed.

Ideal No. 12-124 125 Watt Power Unit—Net Each..... **$38.25**

250 WATT POWER UNIT

For heavier, faster production work. Handles larger components than 12-124. Choice of two heats through 6.1 V and 4.0 V secondary connections. Complete with 5-foot, 3-conductor grounded cord and plug. For 115 V, 60 Hz. Shipping Weight, 8 lbs.

Ideal No. 12-123 250 Watt Power Unit—Net Each..... **$49.95**

500 WATT POWER UNIT

For continuous production work. Wide selection of heat with nine choices (1.7 V to 6.4 V) through 3-position selector switch plus "high", "medium" and "low" secondary terminals. Complete with 5-foot, 3-conductor grounded cord and plug; pilot light. For 115 V, 60 Hz. Shipping Weight, 13 lbs.

Ideal No. 12-163 500 Watt Power Unit—Net Each..... **$89.25**

HUNTER Hand Tools

HUNTER INDUSTRIES

ROUND SHANK SCREWDRIVERS (FIG. A)

Chrome vanadium steel blades, heat treated and hardened. Fully polished, nickel plated. Handles are red Tenite II plastic.

No.	Dia.	Lgth.	Net	No.	Dia.	Lgth.	Net
H182RD	1/8"	2"	$0.47	H142RD	1/4"	1 1/4"	$1.01
H184RD	1/8"	3"	.54	H144RD	1/4"	4"	1.14
H186RD	1/8"	6"	.60	H146RD	1/4"	6"	1.25
H3164RD	3/16"	4"	.87	H100X*	1/8" (#0)	1 1/4"	.59
H3166RD	3/16"	6"	.98	H101X*	3/16" (#1)	2 1/4"	.89
H3168RD	3/16"	8"	1.52	H102X*	1/4" (#2)	4 1/2"	1.13

*Phillips types, for screw size indicated.

MAGIC TIP SCREWDRIVERS (FIG. B)

Hard steel center pin grips screw tightly at slightest pressure. Shockproof plastic handle, chrome finished blade.

No.	Lgth.	For Screw	Net	No.	Lgth.	For Screw	Net
10E3	2 1/2"	#00 to #2	$3.30	10M12	11 1/4"	#3 to #6	$4.13
10E4	4"	#00 to #2	3.45	10A	4"	#6 to #10	3.30
10E7	7"	#00 to #2	3.72	10B	6 1/4"	#7 to #10	3.30
10M3	3 1/2"	#3 to #6	3.30	10C	7 1/2"	#7 to #10	3.72
10M5	5 1/4"	#3 to #6	3.60	10D	11 1/4"	#7 to #10	4.13
10M8	8 1/4"	#3 to #6	3.89				

NUT DRIVERS (FIG. C)

Hardened steel hollow shafts, hex heads inside and outside for maximum visibility. Color-coded Tenite II plastic handles.

No.	Hex	Lgth.	Color	Net	No.	Hex	Lgth.	Color	Net
19W	5/32"	6 3/4"	Maroon	$1.19	20F	3/8"	6 3/4"	Blue	$1.19
20	3/16"	6 3/4"	Black	1.19	20G	7/16"	7"	Brown	1.88
20A	7/32"	6 3/4"	Brown	1.19	20H	1/2"	7"	Red	1.94
20B	1/4"	6 3/4"	Red	1.19	20H1	9/16"	7 1/4"	Orange	2.03
20C	9/32"	6 3/4"	Orange	1.19	20I	1/2"	3"	Red	1.28
20D	5/16"	6 3/4"	Amber	1.19	20J	5/16"	3"	Amber	
20E	11/32"	6 3/4"	Green	1.19	20K	3/8"	3"	Blue	

No. K20M Nut Driver Set—Seven sizes in plastic roll: 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8". Net Each.....**$8.78**
No. S20L Nut Driver Set—Above, in wood case. Net.....**7.88**
No. XK22GA Pocket Nut Driver Set—Seven pocket size (3 1/2" lg.) nut drivers: 3/8", 11/32", 5/16", 1/4", 3/16", 5/32" and 1/8"; plus, black plastic handle, 3 1/4" x 1", for easier driving. Net Each....**$5.63**

HEX DRIVERS (FIG. D)

For socket screws. Tempered shafts, Tenite II handles.

No.	Size	Lgth.	Net Each	No.	Size	Lgth.	Net Each
4Y	.028"	4"	$0.87	5D	1/8"	6 1/4"	$0.99
4Z	.035"	4"	.87	5D1	9/64"	7"	.99
5	.050"	4 5/8"	.83	5E	5/32"	7 5/8"	.87
5A	1/16"	5 1/8"	.84	5F	3/16"	8"	.99
5B	5/64"	6"	.83	5G	7/32"	8 3/8"	1.13
5C	3/32"	6 3/8"	.99	5H	1/4"	9"	1.35
5C1	7/64"	6 3/4"	1.02	5I	5/16"	10"	1.58

No. K5M1 Hex Driver Set—All 14 sizes listed above, in plastic roll. Net Each.....**$14.54**
No. 5L1 Hex Driver Set—All 14 sizes, in box. Net.....**13.89**
No. 5N-C Hex Driver Set—Five sizes: .050", 1/16", 5/64", 3/32" and 1/8", in plastic roll. Net Each.....**$4.47**
No. K5N2 Hex Driver Set—Seven sizes: .050", 1/16", 5/64", 3/32", 7/64", 1/8" and 9/64", in plastic roll. Net Each.....**$6.75**
No. K5M2 Hex Driver Set—Ten sizes: .028", .035", .050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32"; plastic roll. Net Each.....**$9.38**
No. K5N1 Subminiature Hex Driver Set—Five sizes: .028", .035", .050", 1/16" and 5/64" in plastic roll. Net Each.....**$4.50**
No. 5L Hex Driver Set—Ten sizes, packed in box: .050", 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16". Net Each.....**$10.11**

"SMITTY" WRENCHES (FIG. E)

Gives the right key sizes when you want it. Alloy steel blades.
No. 1P4—6" handle with six 5" blades: 3/32", 1/8", 5/32", 3/16", 7/32" and 1/4". Net Each.....**$3.26**
No. 1P5—4" handle with five 2" blades: 3/32", 1/8", 5/32", 3/16" and 7/32". Net Each.....**$1.61**
No. 1P6—3" handle with six 2" blades: .050", 1/16", 5/64", 3/32", 1/8" and 5/32". Net Each.....**$1.44**
No. 1P7—3" handle with seven 2" blades: .050", 1/16", 5/64", 3/32", 7/64", 1/8" and 9/64". Net Each.....**$1.65**
No. 1P8—4" handle with eight 3" blades: 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32" and 1/4". Net Each.....**$2.30**

HEX AND SPLINE SET (NOT ILLUS.)

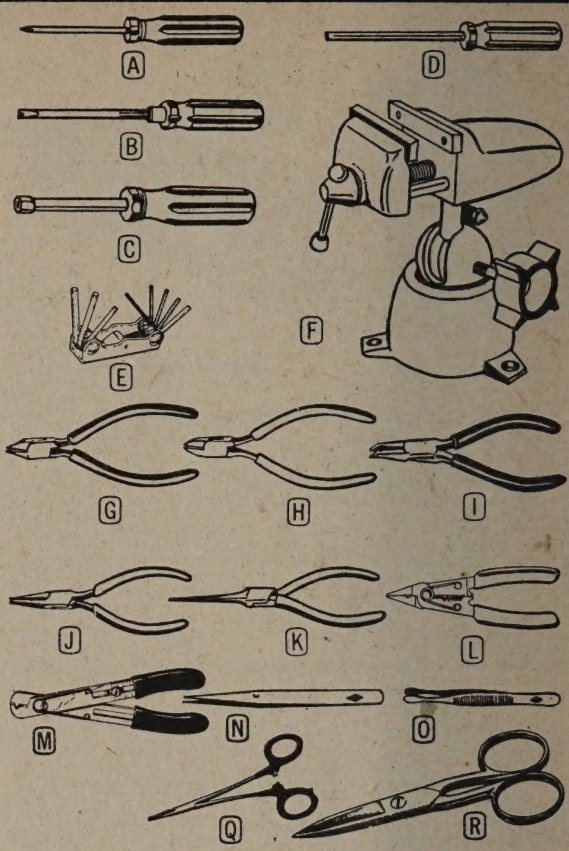
No. XK-9—Contains six most popular hex and spline keys, packed in one pouch. Plated finish hex keys in .050", 1/16", 5/64", 3/32", 1/8" and 5/32" sizes. Black finish spline keys: .033–4, .048–4, .060, .076–4, .072 and .096 sizes. Net Each.....**$1.43**

PANA-VISE (FIG. F)

No. 62—Holds work solidly in any position, even at compound angles, for assembly, adjustment, etc. Pivots work 360° in any tangent. With base, vertical head. 6" x 5" x 8". Net....**$20.55**

EREMADIUM CUTTERS

No. A95MS Flush Cutters (Fig. G)—4" long with leaf spring; gives full flush cut. Tapered tip for confined areas. Extra-hard eremadium cutting edges. Chrome vanadium steel forging with polished heads, vinyl grips. Cuts soft copper wire, #22 or less; will also cut newer wires containing nickel, iron, etc. Net..**$6.38**
No. A86MS Taper-Jaw-Dyke Cutters (Sim. Fig. G)—4 3/4" long and 1/8" bigger in size. With leaf spring; gives semi-flush cut. Chrome vanadium steel, eremadium cutting edges. Cuts #20–#22 wire. Net Each.....**$6.60**



EREMADIUM CUTTERS (CONT'D)

No. A97MS Semi-Flush Cutters (Fig. H)—Cuts at extreme tip, for fine work; 4" long; with leaf spring. Chrome vanadium steel, eremadium cutting edges, vinyl grips. For #22 wire or less. Net Each.....**$6.38**
No. A90EL Tip-O-Dyke Cutters (Fig. I)—Precision flush-cutting instrument will cut flat, soft nickel ribbon wire. Fitted with alignment pins; provide maximum visibility when cutting. Cuts at tip with perfect angle; 4 3/8" long, with leaf spring. Chrome vanadium; eremadium edges. Cuts #22 solid copper wire. Net Each.....**$12.14**

CHAIN AND NEEDLE NOSE PLIERS

No. A11 Narrow Chain Nose Plier (Fig. J)—4 3/4" long. For precision pick-up, looping, twisting, bending of finest wire. Smooth jaws; non-marring radius edges. Net Each.....**$4.11**
No. A11L Narrow Chain Nose Plier—Same as above, but with leaf spring. Net Each.....**$4.34**
No. A14-4 1/2 Extra-Long Needle Nose Plier (Fig. K)—4 1/2" long. For forming connections, lead bending, holding for soldering, other light work. Radius edges. Net Each.....**$4.65**
A14-6 Needle Nose Plier—As above, 6" long. Net Each..**5.31**
No. A14L-4 1/2 Extra-Long Needle Nose Plier—Same as No. A14-4 1/2 but with leaf spring. Net Each.....**$4.88**
A14L-6 Needle Nose Plier—As above, 6" long. Net Each...**5.54**

WIRE STRIPPERS

No. 55 (Fig. L)—4-in-1 tool cuts, holds, crimps and strips stranded and insulated wire. Serrated jaws hold, pull, bend and crimp most solderless terminals. Strips wire sizes #12 thru #22. Plastic cushion grips and spring. Net Each.....**$3.29**
No. 55BB (Fig. M)—Cuts and strips stranded and insulated wire. Positive adjustment, can be preset for wire sizes #10 to #20. Plastic grips and spring. Net Each.....**$1.64**

SCISSOR CLAMPS (FIG. Q)

No. F35—Absorbs and dissipates heat when soldering; acts as "third hand". Stainless steel with tempered blades, precision box joint, fine serrated jaws. Net Each.....**$4.50**
No. F36—As above, but with curved ends. Net Each....**4.50**

SCISSORS (FIG. R)

No. F15—Straight blade nickel plated steel scissors. Give electronic shear. 5" long. Net Each.....**$6.53**

HUNTER HAND TOOLS

QUICK ADJUST VISE (FIG. A)

Fully positionable quick action vise meets the needs of electronics and aerospace industry. Quick adjust jaw allows one of the two jaws to be instantly changed from widest to various close positions.

No. 62E4—Combination of vise, positioner and cast iron base. Net Each..... **$40.20**
No. 62E3—Combination of positioner and vise only. Net..... **33.75**
No. 62E2-1—Vise only. Net Each..... **19.50**
No. 62E1—Positioner only. Net Each..... **15.75**
No. 62K3—Cast iron base only. Net Each..... **8.18**

LEAD BENDING GAUGES (FIG. B)

Fast, accurate lead forming with perfect reliability. Up to 1200 component leads per hour may be formed. All models have 40 lead forming positions. Lightweight, high-impact, Cycolac* plastic.

No. 51KL—¼ watt, size: .375" to 1.50". Net Each..... **$ 6.08**
No. 51KM—½ watt, size: .050" to 1.50", Net Each..... **6.08**
No. 51KN—Set of 51KL and 51KM, above. Net Each.. **9.90**
No. 51KP—1 watt, size: .75" to 2.50". Net Each..... **6.15**
No. 51KQ—2 watts, size: .875" to 2.50". Net Each..... **6.15**
No. 51KR—Set of 51KP and 51KR, above. Net Each.. **12.38**
*Reg. Borg-Warner TM.

THERMAL WIRE STRIPPERS (FIG. C)

Ideal for research and development work. Plier size: 8" long, ½" wide at tip, 2½" wide at handle. ⅞" thick with 36" cord. Weight, 3 lbs.

No. 80—Standard control box, plier-type wire stripper. Net Each..... **$105.98**
No. 80C—As above, but with heavy duty, 3-wire cord and grounds. Net Each..... **$114.45**
No. 80A—Replacement filaments for plier-type stripper. Net Each..... **3.60**

MASTER SUB-MINIATURE TOOLS (NOT ILLUS.)

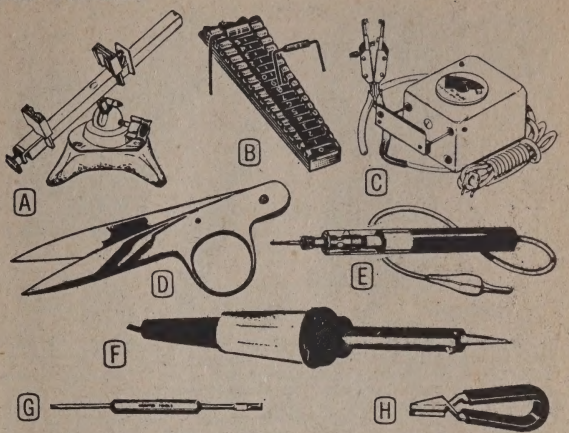
No. X-K24M—29 piece master sub-miniature kit. Consists of red plastic handle; jeweler's metal handle; 5 wrench blades, sizes: 5/64", 3/32", 7/64", 1/8", 5/32"; 4 screwdriver blades, sizes: .055", .070", .080", .100"; Phillips blades, #0, #1, awl; 5 spline blades, sizes: .033-4, .048-4, .048-6, .060-6, .069-4; 5 nut driver blades, sizes: 5/64", 3/32", 7/64", 1/8", 5/32"; 5 hex key blades, sizes: .028", .035", .050", 1/16", 5/64". Complete with plastic roll up kit. Net Each.... **$15.75**

NIPPERS (FIG. D)

No. F14—Designed to be held in palm of hand to keep fingers free for use. Straight blade chrome plated steel nipper, 4½" long. Net Each..... **$5.33**

CIRCUIT TESTER (FIG. E)

No. 54—Traces any AC or DC, dead or live circuit to 500 volts. Signal light clearly visible in the tip at point of contact. Sturdy, pocket size, plated brass parts and shock-proof case. Net.. **$8.24**



SOLDERING IRON AND TIPS

No. S4725 Soldering Iron (Fig. F)—Improves work quality, reduces rejects and speeds up production. ⅜" dia. x 7" long; 810° F iron with 3/16" copper tip. Net Each..... **$3.59**
No. S13C Screwdriver Type Tip—3/16" copper tip. Net..... **.41**
No. S14C Pyramid Type Tip—⅛" copper tip. Net Each..... **.41**
No. S25C Screwdriver Type Tip—Heavy duty ⅛" copper tip. Net Each..... **$0.41**

SOLDERING AIDS (FIG. G)

Non-magnetic steel blades, to which solder won't adhere.

No.	Description	Lgth.	Handle	Blade	Net Ea.
51	Fork & Hook	7"	3/8" hex x 3"	5/32" x 2"	$1.13
51A	Fork & Brush	7"	3/8" hex x 3"	5/32" x 2"	1.13
51B	Knife & Brush	7"	3/8" hex x 3"	5/32" x 2"	1.13
51C	Fork & Reamer	7"	3/8" hex x 3"	5/32" x 2"	1.13
51C1	Micro Fork & Hook	6"	1/4" hex x 3"	1/8" x 1½"	1.13
51C2	Micro Fork & Reamer	6"	1/4" hex x 3"	1/8" x 1½"	1.13

HEAT SINKS (FIG. H)

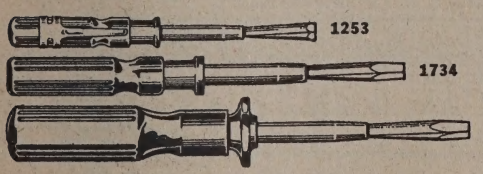
Absorb, dissipate heat during soldering. Plastic coated handles.

No. 51G—1¼" long, for delicate work. Made of Berylco 10, with tweezer nose and coated plastic handle. Net Each.... **69¢**
No. 51F—Medium duty type of Berylco 10. Net Each.... **93¢**
No. 51E—Heavy duty, with copper jaw Spring steel. Net. **$1.50**

KNIFE (NOT ILLUS.)

No. E20—Utility knife. Blade is replaceable. Lightweight aluminum. 5/16" dia. x 5" long. Net Each..... **$0.68**

KEDMAN QUICK-WEDGE® SCREW-HOLDING SCREWDRIVERS

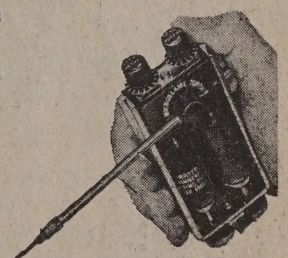


Shockproof unbreakable Tenite II handle. Tough durable spring steel blades, hollow ground, will fit any slotted screw. No spring clip or pressure wedge to wear out. Positively will not mar screw slot. **Note:** All models except 1732 available insulated with shockproof, vinyl-covered tubing. To order: Add suffix **E** to model no. (e.g., 1253**E**); add **$0.20** to price for Models 1253, 1738, 1834, 1836, and 2356; add **$0.21** for all other models.

Kedman No.	Blade Dia., In.	Blade Lgth., In.	Blade Tip Thick., In.	List Price
1253B*	1/8	3	.012	$2.05
1253	1/8	3	.020	1.71
1253A†	1/8	3	.020	1.91
1258	1/8	8	.020	2.05
1258A†	1/8	8	.020	2.23
1732	3/16	2	.031	1.78
1734	3/16	4	.031	1.84
1736	3/16	6	.031	1.91
1738	3/16	8	.031	1.98
17312	3/16	12	.031	2.18
1834	3/16	4	.037	2.53
1836	3/16	6	.037	2.59
1838	3/16	8	.037	2.66
2354	1/4	4	.042	2.66
2356	1/4	6	.042	2.73
2358	1/4	8	.042	2.79
23514	1/4	14	.042	3.27

*For 0–80 and other extremely tiny screws. †Blades have long slim taper for very restricted spaces.

MICROFLAME® WELDING TORCHES



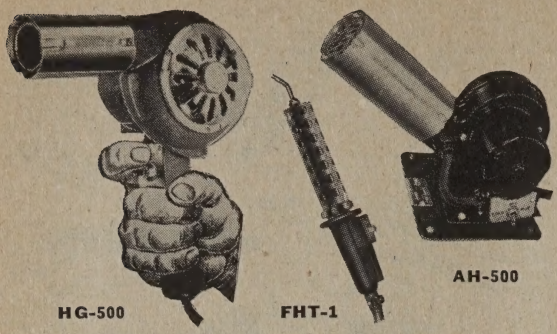
Completely self-contained gas welding torch produces over 5,000° F precision controlled flame for lightweight welding, brazing and soldering applications. Uses self-contained miniature oxygen and butane compressed gas cylinders. Fits in hand; stores in pocket or tool box when not in use. Complete in handy plastic tray-box container, with three flame tips, for easy storage. **Size:** Hand, 2" w. x 3" lg. x 5/8" thick; overall, 2" w. x 5¼" lg. x 1¼" thick at swivel joint, including controls and clamping screws.

Microflame Miniature Torch Set—With torch tube, gaskets and instructions. Net Each..... **$13.82**
Microflame Deluxe Gas-Welding Kit—With 6 oxygen and 3 gas cylinders, spark igniter, 3 welding tips, four 6" gold-silver alloy brazing rods, mtg. bracket, instructions. Net Each..... **$20.66**
Microflame Oxygen Replacement Cylinders—Net Ea.... **.56**
Microflame Butane Replacement Cylinders—Net Ea.... **.34**
Microflame Replacement Flame Tips—Set of three. Net. **.99**
Microflame Replacement Cylinder Gaskets—Set of three. **.39**
Microflame Torch Taper Tip Tube—Net Each..... **1.32**

SPACE DOES NOT PERMIT LISTING OF ALL RELATED COMPONENTS. WRITE FOR INFORMATION ON UNLISTED ITEMS.

MASTER APPLIANCE

HEAT GUNS, TORCHES AND AIR HEATER BLOWERS



Handiest, quickest and safest way for instant heat. Ideal for production shrinking of "shrinkable" tubing; many other uses in lab or plant. Eliminates open flame hazards. Adjustable air intake controls air blast temperature. Double-jacket heater housing; sturdy die-cast aluminum housing; efficient, turbo-type fan blade for quiet operation. Comes with 8-ft. neoprene jacketed, three-wire cord and plug that is oil and grease resistant. Air flow adapter and baffle plates available for control in tube-shrinkage operations. **Nozzle Air Opening:** 1⅜" dia. **Air Volume:** Deliver 8.82 CFM at 1400 FPM velocity. **Size:** Base plate, 5¾" per side (triangular); overall length, 11" except HG-201 and HG-301, 10"; nozzle length, 4" except HG-201 and HG-301, 3". All models available for 115 or 230 VAC, 50/60 Hz operation (400 Hz models available on special order). Shipping Weight, 5 lbs.

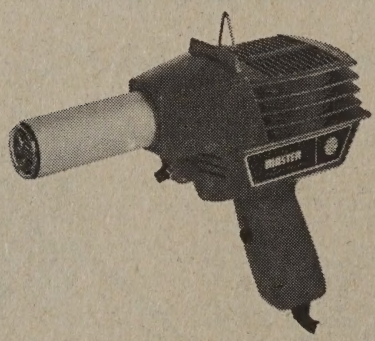
SERIES HG-500 HEAT GUNS

Master Model HG-501 Heat Gun—For 115 VAC, 50/60 Hz operation. Draws 14 amps. Delivers 500/750° F temperature. Net Each..... **$54.90**
Master Model HG-502—Same, but for 230 VAC, 50/60 Hz; draws 8 amps. Net Each..... **$59.95**

SERIES HG-750 HEAT GUNS

Similar to Series HG-500 but higher current; delivers 750/1000° F temperature. Shipping Weight, 5 lbs.
Master Model HG-751 Heat Gun—For 115 VAC, 50/60 Hz. Draws 20 amps. Net Each..... **$64.90**
Master Model HG-752—Same, but for 230 VAC, 50/60 Hz; draws 9 amps. Net Each..... **$72.95**

MASTER-MITE HEAT GUN



A compact heat tool for heat shrinking and other industrial uses that delivers up to 800° F and weighs only 1¾ lbs. with nozzle. Three interchangeable nozzle heating elements are available. Air-cooled barrels deliver 700 ft/minute air velocity and 3.8 CFM of volume. A 650° F nozzle and deflector adapter are included.
Master Model 10008 Heat Gun—For 115 VAC, 50/60 Hz operation. Draws 475 watts. Net Each..... **$37.95**
Master Model 10009 Heat Gun—Same, but for 230 VAC. Net Each..... **$40.95**
Master Model 10011 Heat Gun Kit—(Includes three elements and two adapters)—For 115 VAC. Net Each..... **$50.90**
Master Model 10012 Heat Gun Kit—Same, but for 230 VAC. Net Each..... **$55.90**

ACCESSORIES

20012 Nozzle—115 VAC, 500° F, 340 w. Net Each..... **$5.00**
20013 Nozzle—115 VAC, 650° F, 475 w. Net Each..... **5.00**
20014 Nozzle—115 VAC, 800° F, 525 w. Net Each..... **5.00**
20033 Nozzle—230 VAC, 500° F, 340 w. Net Each..... **6.00**
20034 Nozzle—230 VAC, 650° F, 475 w. Net Each..... **6.00**
20035 Nozzle—230 VAC, 800° F, 525 w. Net Each..... **6.00**
40060 Deflector Adapter—Net Each..... **1.95**
40061 Pinpoint Adapter—Net Each..... **2.95**

SERIES HG-300 HEAT GUNS

Similar but lower current; delivers 300/500° F temperature.
Master Model HG-301 Heat Gun—For 115 VAC, 50/60 Hz operation. Draws 12 amps. Net Each..... **$49.90**
Master Model HG-302—Same, but for 230 VAC, 50/60 Hz; draws 5 amps. Net Each..... **$56.95**

SERIES HG-200 HEAT GUNS

Lowest current version of Master Appliance heat guns; delivers 200/300° F temperature.
Master Model HG-201 Heat Gun—For 115 VAC, 50/60 Hz operation. Draws 5 amps. Net Each..... **$49.90**
Master Model HG-202—Same, but for 230 VAC, 50/60 Hz; draws 3 amps. Net Each..... **$56.95**

HEAT GUN ACCESSORIES

Master Model A-100-HG Air Flow Adapter—Net Each.. **$3.15**
Master Model A-145-HG Baffle Plate—For ¾" O.D. tubing..... **2.95**
Master Model A-150-HG Baffle Plate—For 1¼" O.D. tubing..... **3.15**

SERIES FHT HEAT TORCHES

Ideal for use as a point source of flameless heat, for welding, maintenance, and light fabrication work. Designed for use with external compressed air or non-combustible gas supply. For use only with 110–120 V current (special 230 V torches are available). **Temperature range (¼" from nozzle, F°), each element:** 250 W, 250°–500°; 350 W, 350°–700°; 450 W, 450°–850°; 550 W, 550°–1050°. Specify element by wattage. If not specified 550 W element will be shipped with each torch. Nozzle dia. at opening, ⅛". Comes complete with 10-ft vinyl hose ⅜" I.D., ½" O.D. Wt., 1 lb.
Master Model FHT-1—With switch and shield. Net Ea. **$125.00**
Master Model FHT-2—With switch only. Net Each.... **120.00**
Master Model FHT-3—With shield only. Net Each.... **115.00**
Master Model FHT-4—No switch or shield. Net Each... **110.00**
Extra elements for FHT—Net Each..... **11.00**

HEAT TORCH ACCESSORIES

Master Model SS-1—Universal round tip. Net Each... **$ 9.95**
Master Model SS-2—Welding and tacking tip. Net Ea.. **12.95**
Master Model SS-3—Universal high-speed tip; ⅛" and 5/32" dia. welding rod. Net Each..... **$49.50**
Master Model SS-4—Universal high-speed tip; 5/16" dia. welding rod (use 450 W element only). Net Each..... **$49.50**

SERIES AH AIR HEATER BLOWERS

Mounted design air blower for quick, safe localized heat at even temperature. Can be permanently mounted, easily moved. Excellent for accelerated drying, controlled shrinking of tubing, etc. Comes with three-wire cord 8-ft. long with neoprene jacket, resists oil and grease. **Nozzle Opening:** 2" dia. **Air Volume:** AH301, 14.82 CFM at 1425 FPM; AH302, 16.2 CFM at 1550 FPM; AH501, 13.75 CFM at 1375 FPM; AH502, 14 CFM at 1400 FPM; AH751 and AH752, 13.5 CFM at 1350 FPM. Base size, 6" square. For 60 Hz operation only.

Master Model	VAC	Amps	Temp. F°	Nozzle Length	Overall Length	Shpg. Weight	Net Each
AH301	115	10	300	3⅜"	9"	7 lbs.	$59.95
AH302	230	5	300	3⅜"	9"	7 lbs.	71.95
AH501	115	14	500	6"	12"	8 lbs. 3 oz.	62.95
AH502	230	6	500	6"	12"	7 lbs. 5 oz.	75.95
AH751	115	18	750	6"	12"	8 lbs. 2 oz.	82.95
AH752	230	11	750	6"	12"	7 lbs. 6 oz.	94.95

U.L. LISTED HEAT GUNS

Listed models feature "Mighty-Mite" fuse, a trigger guard covering the switch, a permanently attached stand, and U.L. Listed wiring.

Master Model	Temp. °F.	Voltage	Amps	Net Price
HG-1201-U	200/300	120	5	$59.90
HG-1301-U	300/500	120	12	59.90
HG-1501-U	500/750	120	14	64.90

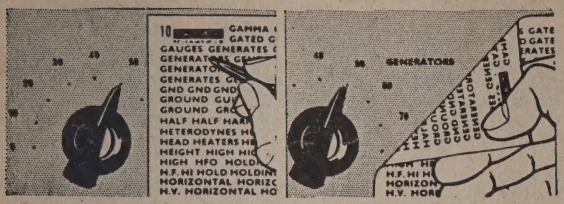
SERIES AHD DELUXE VERSIONS OF AIR HEATER BLOWERS

Features include convenient handle; adjustable intake that regulates temperature; and an adjustable, removable base for 180° positioning flexibility.

Master Deluxe Model	Temp. °F.	Voltage	Amps	Net Price
AHD-301	300/400	120	10	$ 72.95
AHD-302	300/400	230	5	84.95
AHD-501	500/600	120	14	75.95
AHD-502	500/600	230	6	88.95
AHD-751	700/800	120	18	95.95
AHD-752	700/800	230	11	107.95

Marking Kits, Tape

INSTANT LETTERING® MARKING KITS



Dry transfer marking system for quick, easy lettering on all electronic equipment, drawings, prototypes, schematics, etc. Not a decal—goes on instantly without water, tapes or screens—looks like printing. Available in over 250 sheets of standard type faces and sizes; black and white on all; red, yellow, blue and gold as well. Simple and economical, "Instant Lettering" transfers dry to almost any surface with a quick, light pressure; use on metal, paper, plastic, wood or glass. Print whole words or individual letters or symbols as you need them.

TITLES FOR ELECTRONIC EQUIPMENT

Complete set of preprinted electronic titles for dry transfer. Makes prototypes look like finished production equipment. Used by engineers, designers, manufacturers, technicians, hams and model makers. Contains 24 sheets in easy-to-handle 3″ x 5″ size with hundreds of preset words (ranging from "AC" to "Zooms"). Meets up to 95% of all electronic panel markings. Also contains sheets of alphabets and numerals.

Datak No. 9581 (Black) or **9591** (White) **Complete Set**—Net Each.....**$5.95**

Datak No. 9621 (Black) or **9631** (White) **Numerals**—12 sheets of numerals only. Net Each Set.....**$3.00**

Datak No. 9601 (Black) or **9611** (White) **Alphabets**—12 sheets of alphabets only. Net Each Set.....**$3.00**

TERMINAL AND CHASSIS MARKING KIT

Covers all standard component identification letters (R, L, C, CR, TP, etc.) used in marking electronic panels, prototypes, chassis, drawings, PC and terminal boards, schematics, rotating components, etc. Letters are arranged so that there are more of the most frequently used ones, and fewer of those letters used less often. Contains 24 sheets 3″ x 5″ for easy handling. Also included are sheets of consecutive numerals, 1 to 209.

Datak No. 966 (Black) or **967** (White) **Terminal and Chassis Marking Kit**—Net Each.....**$5.95**

DATAKOAT PROTECTIVE COATING

(for Metal, Plastic and Painted Surfaces)

Special, plasticized acrylic resin compatible with all "Instant Lettering". Dries in 10 minutes. Affords complete protection.

Datakoat Kit No. 04176 Resin—In 1 oz., brush-in-cap bottle with bottle of thinner. Net Each.....**$1.25**

Datakoat Spray No. 04177—16 oz. glossy, spray can. Net. **3.25**

Datakoat Spray No. 04178—Same, but matte. Net Each.. **3.25**

INSTANT LETTERING PROTECTIVE COATING

(for Paper, Cardboard and Porous Surfaces)

Colorless coating dries in one minute and helps the transfer to "sink in" and fuse to the base surface. Certain tracing vellums and oil-impregnated surfaces tend to repel instant lettering. A light coating of this spray before you start to transfer will make the surface receptive.

Datak Spray No. 04088—16 oz. matte spray can. Net Ea...**$4.00**

Datak Spray No. 04089—Same, but glossy. Net Each.....**$4.00**

JOTDRAFT DRY TRANSFERS

An entirely new dry transfer combining the ruggedness of die-cut stick-ons with the easy positioning of regular instant lettering. Patterns are printed with a heavy clear plastic overcoat that transfers as a single unit. A pattern can usually be lifted with a knife and repositioned before final burnishing. Jotdraft patterns are available in 1X, 2X, and 4X scale sizes. Contains 24 sheets 1⅞″ x 10″ in dispenser box. **Any Set**—Net Each.....**$6.95**

Datak No. JDE-2X Jotdraft Sampler Set—12 assorted sheets. Net Each.....**$4.95**

Datak No. JD-CUS—Any 24 assorted Jotdraft Sheets, Net**$7.00**

DATAMARK SETS

Each set consists of 6 sheets for lettering on electronic equipment.

Datak No. Black	Datak No. White	Description
K58B	K58W	Audio, TV, hi-fi
K59B	K59W	Amateur Radio, CB
K60B	K60W	Experimenter, Home, Intercom
K61B	K61W	Test Equipment, Industrial
K62		Marks and switch patterns—black, white asst.
K63		⅛″ Alphabets and Numerals—blk/wht/gld asst.
K64		¼″ Alphabets and Numerals—blk/wht/gld asst.
K65		½″ Alphabets and Numerals—blk/wht/gld asst.

Any Model Listed—Net Each.....**$1.50**

ELECTRONIC SYMBOL DRAFTING SET

Commonly used symbols for schematics and block diagrams, uniform and correct in every detail according to MIL and A.S.A. standards, plus a complete set of alphabet and number sheets. Clean, opaque symbols without smudges or "ghosting".

Datak No. 970 Electronic Symbol Drafting Set—Forty sheets. Net Each.....**$24.95**

LOGIC DIAGRAM SYMBOL SET

All logic symbols according to ASA and MIL standards. Completely opaque, suitable for all types of reproduction. Includes eight large (5″ x 7″) sheets.

Datak No. 971 Logic Diagram Symbol Set—Net Each...**$4.95**

METER AND DIAL MARKING KIT

Includes standard and special tap switch patterns, meter arcs, graduation lines, numerals and letters in red, white and black. Used with other sets to mark prototype equipment, panels, and special meter dials. Contains 12 large (5″ x 7″) sheets in three colors.

Datak No. 968 Meter and Dial Marking Kit—Net Each..**$5.95**

ORGANIC CHEMISTRY SYMBOL SET

Contains 12 large sheets of benzene rings, steroids and many other elements to make simple and complex structures. Also included are sheets of elements, radicals, symbols, alphabets and numerals. Sheet size 5″ x 7″.

Datak No. 972 Organic Chemistry Symbol Set—Net Ea..**$5.95**

REFILL SETS

Refill sheets for above sets. Specify catalog number and sheet number when ordering.

Datak No. 968 (Meter and Dial). **970** (Drafting Sheets), **971** (Logic Symbols) or **972** (Organic Chemistry) **Refills Set**—Four sheets per set. Net Each Set.....**$4.58**

SPECIAL INSTANT LETTERING® SHEETS

Made to your own specifications; supply artwork ready for camera. Printing area 9″ x 13″ on 10″ x 15″ sheets.

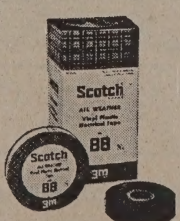
Preparation charge (1st order only)—Net up to.....**$30.00**

Min. order 50 sheets—Net per Sheet, 50-99, **$5.25**; 100-199, **$4.75**.

SCOTCH® BRAND ELECTRICAL TAPE, SPRAY

NO. 33 VINYL PLASTIC ELECTRICAL TAPE

Proved and accepted for general purpose insulation. Excellent resistance to flame, abrasion, sunlight, moisture, alkalies, solvents, oil and many acids. Quick sticking; strong holding pressure-sensitive adhesive. Excellent stretch and conformability. Full electrical and mechanical protection with minimum bulk. Good "feel" for tight wrapping. Only .007″ thick.



Size, W. x L.	Net Each Roll, Pkg. of 1 Roll	10 Rolls
¾″ x 66′*	$1.40	$1.16
¾″ x 44′	.95	.79
¾″ x 20′	.53	.44
⅜″ x 20′	.33	.27

*Available with plastic dispenser; order No. 33D; same prices.

IVI-SPRAY® INSULATING ENAMEL

Electrical insulating enamel in 11-oz. pressurized spray can. Finds many applications in electronics and electrical insulation needs.

3M No. 1602 (Red), **1603** (Black)—Net Each.....**$3.03**

In 10-can cartons, Net Each..... **2.57**

NO. 27 GLASS CLOTH BACKED TAPE

Glass cloth backing and thermosetting adhesive for high heat area applications. Only .007″ thick.

Size, W. x L.	No. Rolls per Carton	Net Each Roll, Pkg. of 1 Roll	10-Roll Ctn.
½″ x 66 ft.	10	$1.88	$1.58
¾″ x 66 ft.	10	2.80	2.36

®Registered trademark of 3M Co.

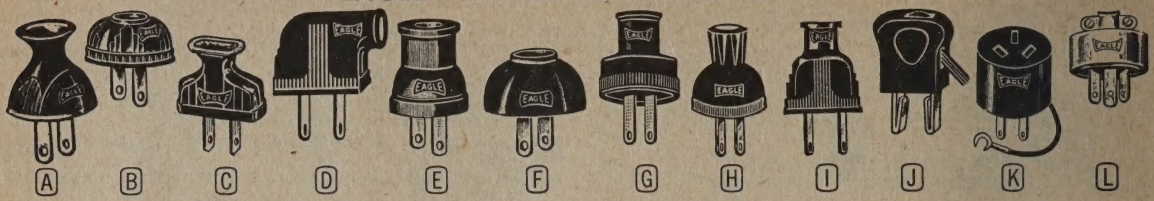
NO. 88 "ALL-WEATHER" VINYL PLASTIC TAPE

Thin (.0085″), tough electrical tape for general purpose "all-weather" insulation. Extra pliability and conformability at winter temperatures. Flame-retardant and resistant to abrasion, puncture, acids, alkalies, oil and weathering.

Size, W. x L.	No. Rolls per Carton	Net Each Roll, Pkg. of 1 Roll	10-Roll Ctn.
¾″ x 66 ft.	10	$1.78	$1.47
¾″ x 44 ft.	10	1.21	1.00
¾″ x 20 ft.	10	.66	.54
1½″ x 44 ft.	10	2.37	1.96

Connectors and Punches

EAGLE ATTACHMENT PLUG CAPS



BAKELITE‡ CAPS

Rated 15 amps, 125 volts.

Eagle No.	Fig.	Prong Type	Color	List Price*
701B	A	PS	Brown	20.5c
701V	A	PS	Ivory	22.5c
702B*	A	Brass	Brown	27.5c
702V*	A	Brass	Ivory	29.5c
704B*	A	Brass†	Brown	27.5c
704V*	A	Brass†	Ivory	29.5c
790B	B	PS	Brown	13.0c
790V	B	PS	Ivory	15.0c
791B*	B	Brass	Brown	22.5c
791V*	B	Brass	Ivory	24.0c
794*	B	Brass†	Brown	22.5c
796	B	PS†	Brown	13.0c
912B*	C	Brass	Brown	26.0c
912V*	C	Brass	Ivory	28.0c
919B*	C	Brass†	Brown	26.0c
919V*	C	Brass†	Ivory	28.0c

*UL Listed; CSA Approved. †Spring prongs. ‡Registered Bakelite Corp. trademark.

RUBBER CAPS

Rated 15 amps, 125 volts. Available with either brass-plated steel (PS) or solid brass prongs. No. 84 has flat side outlet; base, 1¼" x ½" x 1" h.

Eagle No.	Fig.	Prong Type	Cord Hole	List Price*
84*	D	Brass	.....	33.5c
101*	E	Brass	9/16"	31.0c
113*	F	Brass	7/16"	30.0c
117*	G	Brass	.450"	33.5c
121	H	PS	.450"	15.5c
123*	H	Brass	.450"	23.5c
169	H	PS†	.450"	16.0c
170*	G	Brass†	.450"	33.5c
179*	H	Brass†	.450"	23.5c
183B*	I	Brass	21/64"	29.5c
183V*	I	Brass	21/64"	33.5c

JIFFY PUSH-PULL PLUG (FIG. J)

Makes perfect contact by pin that penetrates directly into cord end without piercing insulation. No moving parts. Bakelite case has side outlet. Rated 15 amps, 125 volts. UL Listed; CSA Approved.
Eagle No. C900B (Brown) **or C900V** (Ivory)—List Price..... **$0.215***

THREE-WIRE ADAPTER (FIG. K)

Rated 10 amps, 250 volts; 15 amps, 125 volts. For connecting a two-wire system to a three-wire, polarized grounding system. With 3¾" green grounding lead. Double-wipe contacts; self-finding slots. Brown Bakelite body.
Eagle No. 833—List Price..... **$1.15***

THREE-WIRE CAPS

With cord clamp. Rated 10 amps, 250 volts; 15 amps, 125 volts. UL Listed. Cord hole 0.225" to .600".
Eagle No. 863 (Fig. L)—Armored cap, 1 9/16" O.D. List Price..... **$1.06***
Eagle No. 853—Rubber cap, 1⅝" O.D. List Price..... **.955***

*DISCOUNT PRICES ON REQUEST.

GREENLEE CHASSIS PUNCHES

Greenlee Series 730 Chassis Punches—Cut clean, accurate holes in radio chassis for connectors, tube sockets and other receptacles. Operates simply with ordinary wrench for drive power. No reaming or filing necessary, the hole is smooth and perfect. Will cut holes in chassis up to 16-gauge metal. Average Shipping Weight, 1½ lbs.

Part No.	Hole Size	Cap Screw	Net Each	Part No.	Hole Size	Cap Screw	Net Each
500 2408.6	½"	¼"	$3.85	500 2419.1	1¼"	⅜"	$ 4.60
500 2433.7	9/16"	¼"	3.85	500 3912.1	15/16"	⅜"	5.70
500 2409.4	⅝"	¼"	3.85	500 2420.5	1⅜"	⅜"	5.70
500 2410.8	11/16"	⅜"	3.90	500 2421.3	1½"	⅜"	6.25
500 2411.6	¾"	⅜"	3.90	500 2422.1	1⅝"	¼"	7.60
500 2412.4	13/16"	⅜"	3.90	500 6828.8	1¾"	¼"	8.60
500 2413.2	⅞"	⅜"	3.90	500 2424.8	1⅞"	¼"	10.65
500 2414.0	15/16"	⅜"	4.40	500 2425.6	2"	¼"	11.25
500 2415.9	1"	⅜"	4.40	500 2426.4	2⅛"	¼"	12.15
500 2416.7	1 1/16"	⅜"	4.60	500 2427.2	2¼"	¼"	12.60
500 2417.5	1⅛"	⅜"	4.60	500 2429.9	2½"	¼"	20.40
500 2428.0	1 5/32"	⅜"	4.60	500 2430.2	2¾"	¼"	28.45
500 2418.3	1 3/16"	⅜"	4.60	500 2431.0	3"	¼"	39.20

Greenlee Series 731 Square Radio Chassis Punches—Cut any square or oblong shapes to exact size needed.

Part No.	Hole Size	Net Each	Part No.	Hole Size	Net Each
500 2446.9	½"	$10.25	500 2448.5	⅞"	$13.00
501 3170.2	⅝"	10.15	501 3172.9	1"	13.45
501 3171.0	¾"	11.10			

No. 731-R Relay Punch—Makes 1.018" x 0.861" hole for P&B No. KHP relay socket. Starting hole, 5/16". Capacity, 16 ga.
Part No. 501 5115.0—Net Each..... **$20.95**

Greenlee Series 733 Radio Chassis "D" Punch—For high frequency miniature tube sockets. Drive screw fits ⅜" hole.
Part No. 500 2459.0—Makes ½" hole. Net Each..... **$8.35**
Part No. 500 2460.4—Makes ⅝" hole. Net Each..... **8.85**

Greenlee Series 732 Chassis "Key" Punches—Cuts slots for keyed tube sockets.

Part No.	Hole Size	Net Each	Part No.	Hole Size	Net Each
500 2451.5	15/32"	$ 9.65	500 6832.6	1 17/64"	$13.45
500 2452.3	15/16"	10.40	500 2455.8	1 21/64"	14.95
500 2453.1	1 1/64"	11.45			

HYDRAULIC PUNCH DRIVER

An efficient, portable hydraulic unit specifically designed for driving standard Greenlee Knockout Punches. Develops over 11 tons ram pressure. Cuts conduit holes in up to 10-gauge metal with ease. Cuts in tight places more easily too, because no wrench space is needed. Set consists of hand hydraulic pump, high pressure hose, ram, adapter screw and die sleeve. The 3-foot high-pressure hose is of heavy wire braid-reinforced oil-resistant rubber. Spring action returns piston when hydraulic pressure is released. The set handles knockout punches for cutting ½" to 4" conduit holes and all Greenlee radio chassis punches using ⅜" and larger diameter drive screws. Set is packed in sturdy metal case for easy transportation. Punches and dies not included.
Greenlee Hydraulic Knockout Punch Driver Model 7646—Complete Set. Weight, 20 lbs. Net Each..... **$168.50**
Write for prices on punches and individual items contained in the above set. Other Greenlee Punch Drivers are available; inquire.

OUR STOCKS ARE COMPLETE AND UP-TO-DATE FOR PROMPT DELIVERY—
SEE CATALOG INDEX FOR OTHER SPRAGUE PRODUCTS ALSO LISTED.
WRITE FOR INFORMATION ON NEW OR UNLISTED ITEMS.

J-B-T® VIBRATING REED FREQUENCY METERS

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone and television service, on engine generator sets, in laboratories, in many types of electronic equipment—wherever constant or known frequency is important to efficient operation of equipment.

MODERN FB SERIES VIBRATING REED FREQUENCY METERS

Modern style; made for easy reading to full limit of accuracy. Permanently calibrated; no temperature compensation needed. Screw term. Typical models listed; others available on order.

J-B-T Model	Range, Hz	No. of Reeds	Standard Voltage	Imped., Ohms	Accuracy ±%	Case Size	Net Each
30-FB	48–52 & 58–62	10	100–130	16,500	0.3	3½″	$41.50
31-FB	58–62	5	100–130	16,500	0.3	3½″	34.50
33-FB	380–420	9	100–130	15,400	0.3	3½″	50.00
34-FB	56–64	9	100–130	16,500	0.3	3½″	41.00
34-FB-Z-11	57.5–62.5	11	100–130	16,500	0.3	3½″	45.00
34-FB-21	45–64	21	100–130	21,800	0.3	3½″	55.00
34-FB-21-115	380–420	21	100–130	15,400	0.3	3½″	61.00

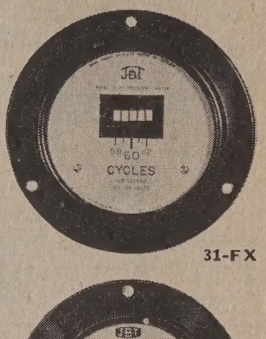
33-FB

ROUND MOLDED AND METAL CASE REED METERS

FHXX models, sealed meters, glass-to-metal construction with solder terminals and detachable flange; **F** models unsealed metal case; **FX** models molded case.

J-B-T Model	Range, Hz	No. of Reeds	Standard Voltage	Ohms per Volt	Accuracy ±%	Case Size	Net Each
30-FX	48–52 & 58–62	10	100–130	140	0.3	3½″	$38.75
31-F	58–62	5	100–130	115*	0.3	3¼″	35.00
31-FX	58–62	5	100–130	120	0.3	3½″	32.75
31-FHXX	58–62	5	100–130	120	0.3	3½″	40.00
33-F	380–420	9	100–130	130*	0.3	3¼″	48.50
33-FX	380–420	9	100–130	130	0.3	3½″	47.25
33-FHXX	380–420	9	100–130	130	0.3	3½″	54.75
34-FX	56–64	9	100–130	140	0.3	3½″	37.75
36-FHXX-21-115	380–420	21	100–130	130	0.3	3½″	68.25

*At 120 VAC. †±0.1% accuracy available, quotation on request.

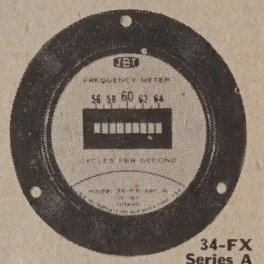


31-FX

MODERN DESIGN FG SERIES FREQUENCY METERS

Modern appearance with bright textured metal insert below the dial, as illustrated for model 31-EGW-5 elapsed time meter. Has same accuracy and electrical characteristics as corresponding FX frequency meters. Design easily installs in 3½″ wide, 3″ high hole. Three typical FG models listed below, others available on order.

J-B-T Model	Range, Hz	No. of Reeds	Standard Voltage	Ohms per Volt	Accuracy ±%	Case Size	Net Each
30-FG	48–52 & 58–62	10	100–130	140	0.3	3½″	$40.75
33-FG	380–420	9	100–130	130	0.3	3½″	49.25
34-FG	56–64	9	100–130	140	0.3	3½″	40.50



34-FX Series A

NEW HIGH VISIBILITY EG SERIES ELAPSED TIME METERS

New modern style, matches the look of the new FG series frequency meters. Dimensions are same as those for FG series meters, while mechanical specifications match 31-EXW series meters, (see below). Models listed are examples; other voltages, frequencies and numerals on request.

J-B-T Model 31-EGW-5—Five wide digits, 0–9,999.9 hours, 60 Hz, 110–125 V. Net Each. **$27.00**

J-B-T Model 31-EGW—Six wide digits, 0–99,999.9 hours, 60 Hz, 110–125 V. Net Each.. **27.50**

J-B-T Model 13A-234—Half bezel adapter, separate black molded frame and hardware for picture window appearance on any FG or EG meter. Net Each..... **$3.75**

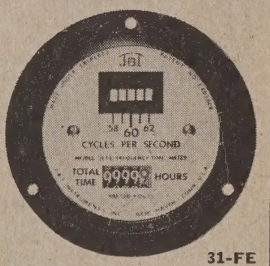
J-B-T Model 13A-239—Same as above, but metal construction for FG and EG meters. Net Each..... **$3.75**

ELAPSED TIME AND 5-REED FREQUENCY METERS 31-FE AND 31-FEX-1

This unique panel instrument combines the elapsed time or running time meter with frequency reeds. It is widely used on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. Reads 0–9,999.9 hours; 58–62 hertz at 100–130 volts. Self-starting. Tenths shown in red numerals, all others white numerals on black background. Meter panel 2¹⁹⁄₃₂″ (2⅜″ panel mounting hole recommended); depth behind flange, 4¹⁹⁄₃₂″. Front mounting same as Model 31-F. Variations with 7, 9 or 11 reeds on special order only. 3¼″ metal case.

J-B-T Model 31-FE—Net Each..... **$50.00**

J-B-T Model 31-FEX-1—Same, but with 3½″ metal flange permanently attached for MIL-M-6B mounting. Net Each..... **$54.50**



31-FE

60-Hz ELAPSED TIME METERS 31-EX, 31-EX-200, 31-ES, AND 31-EHXX

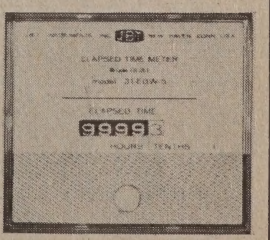
To record operating time of AC electrical and electronic equipment, instrument registers in 1/10th hour steps to 9,999.9 hours, then automatically resets. Shows tenths in red numerals, all others white on black background. Molded case fully encloses all parts. Popular for tube life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc. Meter panel 2¹¹⁄₁₆″ (2¾″ hole recommended); depth behind flange, 3⁷⁄₈″.

J-B-T Model 31-EX—110–125 volt. Net Each..... **$22.75**

J-B-T Model 31-EX-200—200–240 volt. Net Each..... **$31.50**

J-B-T Model 31-ES—(Square case 3″ x 3″) 110–125 volts. Net Each..... **$23.75**

J-B-T Model 31-EHXX—Same as Model 31-EX, but ruggedized and sealed case. Has glass-to-metal sealed construction with flat front and 3½″ dia. separable flange. Heavy-duty solder terminals. Vacuum chamber checked. Max. 1000 V rms between terminals and case. Barrel dia. 2¹¹⁄₁₆″ to fit 2¾″ panel hole with 2⅞″ depth behind panel. Three flange holes take 6-32 screws on 1.58″ radius. Net Each..... **$30.00**



31-EGW-5

400-Hz SEALED, ELAPSED TIME METER MODEL 33-EHXX

Stable 400-Hz elapsed time meter in 3½″ flanged case. Fully enclosed design has sealed, glass-to-metal construction with flat glass front. Reads 0–9,999.9 hours in 1/10th-hour steps; 110–125 volts, 400 Hz. Case slightly larger than 31-EHXX.

J-B-T Model 33-EHXX—Net Each..... **$112.25**

WIDE NUMERAL, ELAPSED TIME METER MODELS 31-EXW AND 31-EXW-5

Combines basic Model 31-EX (see above) with easily-read, wide 6-digit face design. Distinctive, contemporary dial shows tenths in red on white; units in white on black. Six digits read 0–99,999.9 hours, then automatically resets; 110–125 volts, 60-Hz operation. Black, molded 3½″ case interchangeable with FX Series meters.

J-B-T Model 31-EXW—Net Each..... **$23.25**

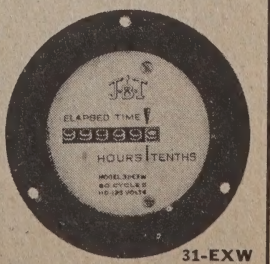
J-B-T Model 31-EXW-5—New model interchangeable electrically and mechanically with 31-EX and 31-EXW. Five wide digits, registers 0–9,999.9 and automatically resets. For 60 Hz, 110–125 volts. Net Each..... **$21.75**

400-Hz BROAD AND VERNIER INDICATOR 41-FX-42 (NOT ILLUS.)

Widely used in commercial and military testing, this combination unit provides two windows: Broad 300–500 Hz, 21 reeds in 10-Hz steps; and, for a vernier effect, 380–420 Hz with 21 reeds in 2-Hz steps. Back molded case has flush front; 4¾″ w. x 4¾″ h. x 2¹⁷⁄₃₂″ depth behind panel, over studs.

J-B-T Model 41-FX-42—Standard model for 100–130 volts. Net Each..... **$163.50**

J-B-T Model 41-FX-42—Special, with 4 studs for 200–240 (7.7 watts), 115 (4.5 watts) and 30 volts (2 watts). Net Each..... **$183.75**



31-EXW

Simpson Panel Meters

INSTRUMENTS THAT STAY ACCURATE

3623, 3643

1521, 1522, 1541, 1542

1622, 1642, 1921, 1941

CURRENT TRANSFORMERS

Inverted one-turn primary type. For use with AC ammeters. Secondary, 5 amps.

Model	Primary Amps	Net Each, Lots of 1-9	10-24	25-49
1293	50	$33.00	$29.70	$28.05
1306	75	24.30	21.87	20.66
1297	100	20.25	18.23	17.21
1298	150	18.00	16.20	15.30
1299	200	18.00	16.20	15.30
1313	250	18.00	16.20	15.30
1300	300	20.25	18.23	17.21
1305	400	22.50	20.25	19.13
1301	500	24.30	21.87	20.66
2303	600	24.30	21.87	20.66
2459	750	28.80	25.92	24.48
2304	1000	30.90	27.81	26.27

PORTABLE SHUNTS

For DC panel ammeters requiring external shunt. Drop, 50 mV. Accuracy, ±1%. Phenolic base; with 5-ft. leads.

Model	Amps	Net Each, Lots of 1-9	10-24	25-49
6700	1	$13.80	$12.42	$11.73
6703	5	13.80	12.42	11.73
6704	10	13.80	12.42	11.73
6705	15	13.80	12.42	11.73
6707	25	13.80	12.42	11.73
6708	30	13.80	12.42	11.73
6709	50	13.80	12.42	11.73
6711	75	13.80	12.42	11.73
6713	100	13.80	12.42	11.73
6714	150	13.80	12.42	11.73
6715	200	13.80	12.42	11.73

SWITCHBOARD SHUNTS

For DC switchboard ammeters. Drop, 50 mV. Accuracy, ±1%. With 5-ft. leads.

6500	100	$13.80	$12.42	$11.73
6503	150	14.85	13.37	12.62
6504	200	14.85	13.37	12.62
6505	250	14.85	13.37	12.62
6506	300	14.85	13.37	12.62
6507	400	18.00	16.20	15.30
6508	500	21.30	19.17	18.11
6509	600	25.05	22.55	21.29
6510	750	32.10	28.89	27.29
6511	800	33.90	30.51	28.82
6512	1000	41.25	37.13	35.06
6513	1200	49.05	44.15	41.69
6514	1500	61.05	54.95	51.89
6515	2000	67.80	61.02	57.63
6516	2500	85.65	77.09	72.80
6517	3000	101.55	91.04	86.32

EDGEWISE PANEL METERS MODELS 3623 AND 3643

Molded polycarbonate case with top and bottom formed steel covers; two-piece offset scale for parallax-free readings; self-contained mounting lock eliminates need for external hardware; front bezel zero adjust. **Accuracy:** 2% of full scale with standard pivot and jewel suspension; 1% of full scale with taut band suspension available on special order. **Scale Length:** 2.6". **Size:** 3.60" w. x 1.23" h. Specify vertical or horizontal mounting type.

3623 DC PANEL METERS

Model	Scale	Net Each, Lots of 1-9	10-24	25-49
16862	0–25 μA	$46.35	$41.72	$39.40
16863	0–50 μA	43.65	39.29	37.10
16864	0–100 μA	41.25	37.13	35.06
16865	0–200 μA	38.85	34.97	33.02
16866	0–500 μA	37.65	33.89	32.00
16867	25–0–25 μA	44.10	39.69	37.49
16868	0–1 mA	36.75	33.08	31.24
16869	4–20 mA	40.50	36.45	34.43
16870	0–50 mV	37.80	34.02	32.13
16873	0–25 V	39.00	35.10	33.15
16874	0–50 V	39.00	35.10	33.15
16880	0–10 V	39.00	35.10	33.15
16881	0–15 V	39.00	35.10	33.15

3643 AC PANEL METERS

16871	0–5 A*	$49.20	$44.28	$41.82
16879	100–130 V†	90.15	81.14	76.63

*Rectifier type. †Segmental.

STACKING EDGEWISE PANEL METERS—MODELS 1622, 1642, 1921 AND 1941

Stacks horizontally or vertically. Features self-shielding core magnet meter movement to eliminate protruding barrel. Scale extends nearly to full width and height of meter. Steel housing, plastic window, dustproof construction. Insulated terminals. **Accuracy:** ±2% FS. **Dielectric:** 1,500 V rms. **Terminals:** 1622 and 1642 have 6-32 studs; 1942 and 1941, solder type. **Size:** 1622 and 1642: 2 5/16" w. x 2 5/16" h.; mtg. ctrs. 2 1/16"; cutout .562" x 2.312"; scale 1.85" lg. 1921 and 1941: 1.81" w. x 2.51" d. x .50" h.; mtg. ctrs. 2.28; cutout .525" x 1.718"; scale 1.370" lg.

DC VOLTMETERS—5,000 OHMS/V

Range Volts	Net Each, Lots of 1-9* 1921—1½"	1622—2½"
0–10, 0–15	$26.25	$27.75
0–25, 0–50, 0–150	26.25	27.75
0–500	—	27.90

DC MILLIVOLTMETERS

Range mV	Net Each, Lots of 1-9* 1921—1½"	1622—2½"
0–50	$27.45	$29.10

DC MILLIAMMETERS

Range mA	Net Each, Lots of 1-9* 1921—1½"	1622—2½"
0–1, 0–5, 0–10	$25.80	$27.60
0–25, 0–50	27.15	28.80
0–100, 0–500	27.15	28.80

DC MICROAMMETERS

Range μA	Net Each, Lots of 1-9* 1921—1½"	1622—2½"
0–25	$33.75	$35.25
0–50	33.45	34.65
0–100	29.85	31.80
0–200	27.45	29.10
0–500	26.85	28.20

RECTIFIER TYPE AC VOLTMETERS—5,000 OHMS/V

Range Volts	Net Each, Lots of 1-9* 1941—1½"	1642—2½"
0–150	$32.70	$34.20

EDGEWISE PANEL INSTRUMENTS—MODELS 1521, 1522, 1541 AND 1542

For mounting wherever space is a problem. Supplied with mounting hardware, including bezel with two speed nuts for quick, easy mounting. **Types:** DC and AC rectifier. **Accuracy:** DC, ±2% of full scale; AC, ±3% of full scale at 25° and 60 Hz sine wave. **Meter Movement:** Self-shielded. **Case:** Dustproof, molded acrylic. **Marking:** Black numbers, white background. **Terminals:** Stud type, ammeters; solder, all others. **Size:** 1521 and 1541: 1¾" w. x 2" d. x 1.13" h., overall; mtg. ctrs. 2"; cutout 1.94" x .53", scale 1⅜" lg. 1522 and 1542: 2½" w. x 3½" d. x 1.22" h. overall; mtg. ctrs., 2 1/16"; cutout 2.56" x .68"; scale 1⅞" lg.

VOLUME LEVEL INDICATORS

Range VU	Net Each, Lots of 1-9* 1541—1½"	1542—2½"
A or B Scale	—	$40.35

DC MILLIVOLTMETERS

Range mV	Net Each, Lots of 1-9* 1521—1½"	1522—2½"
0–50	$23.70	$26.10

DC VOLTMETERS

Ranges Available: 0–10, 0–15, 0–25, 0–50, 0–150 and 0–500. All 1,000 ohms/volt, except 0–500 V, 2,000 ohms/V.

Range Volts	Net Each, Lots of 1-9* 1521—1½"	1522—2½"
0–10 to 0–150	$22.50	$24.75
0–500	22.80	25.05

DC MICROAMMETERS

Range μA	Net Each, Lots of 1-9* 1521—1½"	1522—2½"
0–25	$33.90	$36.30
0–50	29.70	31.95
0–100	26.25	28.80
0–200	23.70	26.10
0–500	23.10	25.20

DC MILLIAMMETERS

Range mA	Net Each, Lots of 1-9* 1521—1½"	1522—2½"
0–1, 0–5	$22.05	$24.30
0–10	22.05	24.30
0–25, 0–50, 0–100	23.10	25.50
0–500	23.10	25.50

DC AMMETERS

Range Amps	Net Each, Lots of 1-9* 1521—1½"	1522—2½"
0–5, 0–25	—	$26.10

RECTIFIER TYPE AC VOLTMETER

Resistance: 1,000 ohms per volt.

Range Volts	Net Each, Lots of 1-9* 1541—1½"	1542—2½"
0–150	$29.25	$31.35
0–300	—	31.35

★QUANTITY DISCOUNTS

Lots of	Discount	Multiplier
1–9	None	.....
10–24	−10%	.90
25–49	−15%	.85

Simpson Century Panel Meters

INSTRUMENTS THAT STAY ACCURATE

Century Series panel meters offer attractive design and easy reading. DC meters have self-shielded movements, with calibration unaffected by stray magnetic fields or magnetic mounting. AC meters have iron vane type movement. AC milliammeters and ammeters are calibrated for use on 25 through 800 Hz; AC voltmeters, 25–125 Hz. Calibration for frequencies up to 800 Hz available on request. **Flange Size:** 1½″ meters, 1.75″ sq.; 2½″ meters, 2.38″ sq.; 3½″ meters, 3.00″ sq.; 4½″ meters, 4.66″ x 4.20″. **Depth Behind Panel:** 1.34″ except 1½″ meters, .90″; wattmeters, 1.75″.

SPECIFICATIONS

Size	Model	Accuracy, Full Scale	Scale Lgth.	Mtg. Hole	4 Mtg. Studs on
1½″	2121	±2%	1.50″	1.51″ dia.	1.32″ centers #4-40
	2141	±3%			
2½″	2122, T	±2%	2.30″	2.16″ dia.	1.88″ centers #4-40
	2142	±3%			
	2152	±2%			
3½″	2123, T	±2%	3.14″	2.69″ dia.	2.24″ centers #4-40
	2143	±3%			
	2153, 2133	±2%			
	2173	±3%		2.75″	
4½″	2124, T	±2%	3.93″	2.69″ dia.	4″ x 3.57″ centers #6-32
	2144	±3%			
	2154, 2134	±2%			
	2174	±3%		2.75″	

DC VOLTMETERS—SELF-SHIELDED METER MOVEMENT (1000 OHMS/VOLT EXCEPT AS NOTED)

MODEL 2121—1½″

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$23.10	$20.79	$19.64
0–8	—	—	—
0–10	23.10	20.79	19.64
0–15	23.10	20.79	19.64
0–25	23.10	20.79	19.64
0–30	23.10	20.79	19.64
0–50	23.10	20.79	19.64
0–100	23.10	20.79	19.64
0–150	23.10	20.79	19.64
0–200	—	—	—
0–250	—	—	—
0–300	—	—	—
0–300*	23.10	20.79	19.64
0–500*†	28.80	25.92	24.48

MODEL 2122—2½″

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$24.75	$22.28	$21.04
0–8	—	—	—
0–10	24.75	22.28	21.04
0–15	24.75	22.28	21.04
0–25	24.75	22.28	21.04
0–30	24.75	22.28	21.04
0–50	24.75	22.28	21.04
0–100	24.75	22.28	21.04
0–150	24.75	22.28	21.04
0–200	—	—	—
0–250	—	—	—
0–300	24.75	22.28	21.04
0–300*	—	—	—
0–500*	25.65	23.09	21.80
0–750*†	31.05	27.95	26.39
0–1000*†	32.10	28.89	27.29

MODEL 2123—3½″

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$25.65	$23.09	$21.80
0–8	—	—	—
0–10	25.65	23.09	21.80
0–15	25.65	23.09	21.80
0–25	25.65	23.09	21.80
0–30	25.65	23.09	21.80
0–50	25.65	23.09	21.80
0–100	25.65	23.09	21.80
0–150	25.65	23.09	21.80
0–200	25.65	23.09	21.80
0–250	25.65	23.09	21.80
0–300	25.65	23.09	21.80
0–300*	—	—	—
0–500*	26.85	24.17	22.82
0–750*	26.85	24.17	22.82
0–1000*†	33.00	29.70	28.05

MODEL 2124—4½″

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$27.90	$25.11	$23.72
0–8	27.90	25.11	23.72
0–10	27.90	25.11	23.72
0–15	27.90	25.11	23.72
0–25	27.90	25.11	23.72
0–30	27.90	25.11	23.72
0–50	27.90	25.11	23.72
0–100	27.90	25.11	23.72
0–150	27.90	25.11	23.72
0–200	27.90	25.11	23.72
0–250	—	—	—
0–300	27.90	25.11	23.72
0–300*	—	—	—
0–500*	28.95	26.06	24.61
0–750*	28.95	26.06	24.61
0–1000*†	35.40	31.86	30.09

*2000 ohms/volt. †External multiplier furnished; all others self-contained.

DC AMMETERS—SELF-SHIELDED METER MOVEMENT

Self-contained types are: 1½″ through 10 amps; 2½″, 3½″ and 4½″ through 50 amps. All other ranges require external shunts.

MODEL 2121—1½″

0–1 Amps	$23.10	$20.79	$19.64
0–1.5	—	—	—
0–2	23.10	20.79	19.64
0–3	23.10	20.79	19.64
0–5	23.10	20.79	19.64
0–10	23.10	20.79	19.64
0–15	23.10	20.79	19.64
0–25	23.10	20.79	19.64
0–30	—	—	—
0–50	23.10	20.79	19.64
0–100	—	—	—
0–150	—	—	—
0–200	—	—	—
0–300	—	—	—
0–500	—	—	—
15–0–15	—	—	—
30–0–30	—	—	—

MODEL 2122—2½″

0–1 Amps	$23.70	$21.33	$20.15
0–1.5	23.70	21.33	20.15
0–2	23.70	21.33	20.15
0–3	23.70	21.33	20.15
0–5	23.70	21.33	20.15
0–10	23.70	21.33	20.15
0–15	23.70	21.33	20.15
0–25	23.70	21.33	20.15
0–30	23.70	21.33	20.15
0–50	23.70	21.33	20.15
0–100	23.70	21.33	20.15
0–150	—	—	—
0–200	23.70	21.33	20.15
0–300	—	—	—
0–500	—	—	—
15–0–15	—	—	—
30–0–30	—	—	—

MODEL 2123—3½″

0–1 Amps	$24.75	$22.28	$21.04
0–1.5	24.75	22.28	21.04
0–2	24.75	22.28	21.04
0–3	24.75	22.28	21.04
0–5	24.75	22.28	21.04
0–10	24.75	22.28	21.04
0–15	24.75	22.28	21.04
0–25	24.75	22.28	21.04
0–30	24.75	22.28	21.04
0–50	24.75	22.28	21.04
0–100	24.75	22.28	21.04
0–150	24.75	22.28	21.04
0–200	24.75	22.28	21.04
0–300	24.75	22.28	21.04
0–500	24.75	22.28	21.04
15–0–15	26.10	23.49	22.19
30–0–30	26.10	23.49	22.19

MODEL 2124—4½″

0–1 Amps	$26.85	$24.17	$22.82
0–1.5	—	—	—
0–2	26.85	24.17	22.82
0–3	26.85	24.17	22.82
0–5	26.85	24.17	22.82
0–10	26.85	24.17	22.82
0–15	26.85	24.17	22.82
0–25	26.85	24.17	22.82
0–30	26.85	24.17	22.82
0–50	26.85	24.17	22.82
0–100	26.85	24.17	22.82
0–150	26.85	24.17	22.82
0–200	26.85	24.17	22.82
0–300	26.85	24.17	22.82
0–500	26.85	24.17	22.82
15–0–15	—	—	—
30–0–30	—	—	—

DC MILLIAMMETERS—SELF-SHIELDED METER MOVEMENT

MODEL 2121—1½″

0–1 mA	$22.05	$19.85	$18.74
0–3	—	—	—
0–5	22.05	19.85	18.74
0–10	22.05	19.85	18.74
0–15	22.05	19.85	18.74
0–20	—	—	—
0–25	23.10	20.79	18.74
0–50	23.10	20.79	18.74
0–100	23.10	20.79	18.74
0–150	23.10	20.79	18.74
0–200	23.10	20.79	18.74
0–250	23.10	20.79	18.74
0–300	—	—	—
0–500	23.10	20.79	19.64
0–750	—	—	—
0–1000	—	—	—

MODEL 2122—2½″

0–1 mA	$23.25	$20.93	$19.76
0–3	23.25	20.93	19.76
0–5	23.25	20.93	19.76
0–10	23.25	20.93	19.76
0–15	23.25	20.93	19.76
0–20	—	—	—
0–25	23.70	21.33	20.15
0–50	23.70	21.33	20.15
0–100	23.70	21.33	20.15
0–150	23.70	21.33	20.15
0–200	23.70	21.33	20.15
0–250	23.70	21.33	20.15
0–300	23.70	21.33	20.15
0–500	23.70	21.33	20.15
0–750	—	—	—
0–1000	23.70	21.33	20.15

MODEL 2123—3½″

0–1 mA	$24.00	$21.60	$20.40
0–3	24.00	21.60	20.40
0–5	24.00	21.60	20.40
0–10	24.00	21.60	20.40
0–15	—	—	—
0–20	24.75	22.28	21.04
0–25	24.75	22.28	21.04
0–50	24.75	22.28	21.04
0–100	24.75	22.28	21.04
0–150	24.75	22.28	21.04
0–200	24.75	22.28	21.04
0–250	24.75	22.28	21.04
0–300	24.75	22.28	21.04
0–500	24.75	22.28	21.04
0–750	24.75	22.28	21.04
0–1000	—	—	—

MODEL 2124—4½″

0–1 mA	$25.65	$23.09	$21.80
0–3	25.65	23.09	21.80
0–5	25.65	23.09	21.80
0–10	25.65	23.09	21.80
0–15	—	—	—
0–20	—	—	—
0–25	26.85	24.17	22.82
0–50	26.85	24.17	22.82
0–100	26.85	24.17	22.82
0–150	26.85	24.17	22.82
0–200	26.85	24.17	22.82
0–250	26.85	24.17	22.82
0–300	26.85	24.17	22.82
0–500	26.85	24.17	22.82
0–750	26.85	24.17	22.82
0–1000	26.85	24.17	22.82

DC MICROAMMETERS—SELF-SHIELDED METER MOVEMENT

MODEL 2121—1½″

0–50 μA	$28.95	$26.06	$24.61
0–100	25.80	23.22	21.93
0–200	23.55	21.20	20.02
0–500	23.10	20.79	19.64
25–0–25	29.10	26.19	24.74
50–0–50	26.10	23.49	22.19
100–0–100	23.70	21.33	20.15
500–0–500	22.50	20.25	19.13

MODEL 2122—2½″

0–50 μA	$29.85	$26.87	$25.37
0–100	26.85	24.17	22.82
0–200	24.30	21.87	20.66
0–500	24.00	21.60	20.40
25–0–25	—	—	—
50–0–50	27.30	24.57	23.21
100–0–100	24.75	22.28	21.04
500–0–500	23.55	21.20	20.02

MODEL 2123—3½″

0–50 μA	$30.45	$27.41	$25.88
0–100	27.90	25.11	23.72
0–200	25.65	23.09	21.80
0–500	25.65	23.09	21.80
25–0–25	30.75	27.68	26.14
50–0–50	27.90	25.11	23.72
100–0–100	25.80	23.22	21.93
500–0–500	24.30	21.87	20.66

MODEL 2124—4½″

0–50 μA	$32.85	$29.57	$27.92
0–100	31.05	27.95	26.39
0–200	27.90	25.11	23.72
0–500	27.30	24.57	23.21
25–0–25	33.00	29.70	28.05
50–0–50	31.20	28.08	26.52
100–0–100	28.35	25.52	24.10
500–0–500	25.80	23.22	21.93

DC MICROAMMETERS—SELF-SHIELDED TAUT BAND METER MOVEMENT

MODEL 2122T—2½″

Range μA	Approx. Ohms	Net Each, Lots of 1-9	10-24	25-49
0–5	5750	—	—	—
0–10	4900	$47.70	$42.93	$40.55
0–15	1960	43.35	39.02	36.85
0–25	1960	41.25	37.13	35.06
0–50	960	32.40	29.16	27.54
0–100	500	29.40	26.46	24.99
0–200	234	27.60	24.84	23.46

MODEL 2123T—3½″

Range μA	Approx. Ohms	Net Each, Lots of 1-9	10-24	25-49
0–5	5750	$56.55	$50.90	$48.07
0–10	4900	49.65	44.69	42.20
0–15	1960	44.55	40.10	37.87
0–25	1960	43.05	38.75	36.59
0–50	960	33 00	29.70	28.05
0–100	500	30.45	27.41	25.88
0–200	234	—	—	—

MODEL 2124T—4½″

Range μA	Approx. Ohms	Net Each, Lots of 1-9	10-24	25-49
0–5	5750	$60.15	$54.14	$51.13
0–10	4900	53.85	48.47	45.77
0–15	1960	48.45	43.61	41.18
0–25	1960	46.80	42.12	39.78
0–50	960	35.55	32.00	30.22
0–100	500	33.60	30.24	28.56
0–200	234	31.80	28.62	27.03

RANGES LISTED WITHOUT PRICES (—) ARE AVAILABLE ON SPECIAL ORDER ONLY. CONTINUED ON NEXT PAGE

Simpson Century Panel Meters

INSTRUMENTS THAT STAY ACCURATE

DC MILLIVOLTMETERS—SELF-SHIELDED METER MOVEMENT

MODEL 2122—2½"

Range mV	Approx. Ohms	Net Each, Lots of 1-9	10-24	25-49
0–50	10	$23.70	$21.33	$20.15
50–0–50	20	—	—	—

MODEL 2123—3½"

Range mV	Approx. Ohms	Net Each, Lots of 1-9	10-24	25-49
0–50	10	$24.75	$22.28	$21.04
50–0–50	20	24.75	22.28	21.04

MODEL 2124—4½"

Range mV	Approx. Ohms	Net Each, Lots of 1-9	10-24	25-49
0–50	10	$26.85	$24.17	$22.82
50–0–50	20	26.85	24.17	22.82

RECTIFIER TYPE AC VOLTMETERS—SELF-SHIELDED METER MOVEMENT (2000 OHMS/VOLT)

MODEL 2141—1½"

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$31.80	$28.62	$27.03
0–10	31.80	28.62	27.03
0–15	—	—	—
0–50	—	—	—
0–150	31.80	28.62	27.03
0–300	31.80	28.62	27.03

MODEL 2142—2½"

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$29.40	$26.46	$24.99
0–10	—	—	—
0–15	—	—	—
0–50	—	—	—
0–150	29.40	26.46	24.99
0–300	—	—	—

MODEL 2143—3½"

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$33.60	$30.24	$28.56
0–10	33.60	30.24	28.56
0–15	33.60	30.24	28.56
0–50	33.60	30.24	28.56
0–150	33.60	30.24	28.56
0–300	—	—	—

MODEL 2144—4½"

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$37.20	$33.48	$31.62
0–10	37.20	33.48	31.62
0–15	37.20	33.48	31.62
0–50	37.20	33.48	31.62
0–150	37.20	33.48	31.62
0–300	37.20	33.48	31.62

AC VOLTMETERS—IRON VANE TYPE MOVEMENT (SELF-CONTAINED EXCEPT 0–500 V)

MODEL 2152—2½"

Range	Imped., Ohms	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	33	—	—	—
0–10	133	$22.50	$20.25	$19.13
0–15	300	22.50	20.25	19.13
0–25	833	22.50	20.25	19.13
0–50	3,333	22.50	20.25	19.13
0–100	16,666	—	—	—
0–150	25,000	23.55	21.20	20.02
0–250	41,166	23.55	21.20	20.02
0–300	50,000	23.55	21.20	20.02
0–500	83,333	—	—	—

MODEL 2153—3½"

Range	Imped., Ohms	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	33	$23.55	$21.20	$20.02
0–10	133	23.55	27.20	20.02
0–15	300	23.55	21.20	20.02
0–25	833	23.55	21.20	20.02
0–50	3,333	23.55	21.20	20.02
0–100	16,666	24.30	21.87	20.66
0–150	25,000	25.20	22.68	21.42
0–250	41,166	25.20	22.68	21.42
0–300	50,000	25.20	22.68	21.42
0–500	83,333	31.95	28.76	27.16

MODEL 2154—4½"

Range	Imped., Ohms	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	33	—	—	—
0–10	133	$26.25	$23.63	$22.31
0–15	300	26.25	23.63	22.31
0–25	833	26.25	23.63	22.31
0–50	3,333	26.25	23.63	22.31
0–100	16,666	26.25	23.63	22.31
0–150	25,000	26.85	24.17	22.82
0–250	41,166	26.85	24.17	22.82
0–300	50,000	26.85	24.17	22.82
0–500	83,333	34.05	30.65	28.94

AC AMMETERS—IRON VANE TYPE MOVEMENT

The following meters are self-contained: 2½" through 50 amps, 3½" and 4½" through 75 amps. Higher range AC ammeters are 5-amp type to be used with external current transformer (listed on another page).

MODEL 2152—2½"

Range		Net Each, Lots of 1-9	10-24	25-49
0–1 Amps	.213	$21.30	$19.17	$18.11
0–1.5	.105	21.30	19.17	18.11
0–2	.065	—	—	—
0–3	.028	21.30	19.17	18.11
0–5	.008	21.30	19.17	18.11
0–10	.004	21.30	19.17	18.11
0–15	.0025	21.30	19.17	18.11
0–25	.002	22.05	19.85	18.74
0–30	.0015	22.05	19.85	18.74
0–50	.001	22.05	19.85	18.74
0–75	.008	—	—	—
0–100	.008	21.00	18.90	17.85
0–150	.008	—	—	—
0–200	.008	—	—	—
0–300	.008	—	—	—

MODEL 2153—3½"

Range		Net Each, Lots of 1-9	10-24	25-49
0–1 Amps	.213	$22.50	$20.25	$19.13
0–1.5	.105	—	—	—
0–2	.065	22.50	20.25	19.13
0–3	.028	22.50	20.25	19.13
0–5	.008	22.50	20.25	19.13
0–10	.004	22.50	20.25	19.13
0–15	.0025	22.50	20.25	19.13
0–25	.002	23.25	20.93	19.76
0–30	.0015	23.25	20.93	19.76
0–50	.001	23.25	20.93	19.76
0–75	.008	22.50	20.25	19.13
0–100	.008	22.50	20.25	19.13
0–150	.008	22.50	20.25	19.13
0–200	.008	22.50	20.25	19.13
0–300	.008	22.50	20.25	19.13

MODEL 2154—4½"

Range		Net Each, Lots of 1-9	10-24	25-49
0–1 Amps	.215	$23.85	$21.47	$20.27
0–1.5	.105	—	—	—
0–2	.065	23.85	21.47	20.27
0–3	.028	23.85	21.47	20.27
0–5	.008	23.85	21.47	20.27
0–10	.004	23.85	21.47	20.27
0–15	.0025	23.85	21.47	20.27
0–25	.002	24.75	22.28	21.04
0–30	.0015	24.75	22.28	21.04
0–50	.001	24.75	22.28	21.04
0–75	.008	26.85	24.17	22.82
0–100	.008	23.85	21.47	20.27
0–150	.008	23.85	21.47	20.27
0–200	.008	23.85	21.47	20.27
0–300	.008	23.85	21.47	20.27

AC MILLIAMMETERS—IRON VANE TYPE MOVEMENT

Ranges Available: 0–10 (Model 2153 not available), 0–50, 0–100, 0–250, 0–500 mA; specify when ordering.

MODEL 2152—2½"

Range, mA (Specify)	Net Each, Lots of 1-9	10-24	25-49
Any range	$21.00	$18.90	$17.85

MODEL 2153—3½"

Range, mA (Specify)	Net Each, Lots of 1-9	10-24	25-49
Any range	$22.50	$20.25	$19.13

MODEL 2154—4½"

Range, mA (Specify)	Net Each, Lots of 1-9	10-24	25-49
Any range	$23.85	$21.47	$20.27

DUAL-RANGE AC PANEL METERS, MODELS 2153 AND 2154, 0-150 AC VOLTS/0-5 AC AMPERES

Single instrument measures both volts and amps. For use in many common applications using an AC voltmeter and ammeter in pairs. Lets you save on panel space and purchasing cost. Can also measure extended AC current ranges through an accessory transformer. Available in 3½" and 4½" sizes, in Wide-Vue and Century Models.

Century Dual-Range Meter Model No.	Size	Net Each, Lots of 1-9	10-24	25-49
2153	3½"	$32.10	$28.89	$27.29
2154	4½"	34.20	30.78	29.07

VOLUME LEVEL INDICATORS—SELF-SHIELDED METER MOVEMENT

Range	Model 2141—1½" Net Each, Lots of 1-9	10-24	25-49	Model 2142—2½" Net Each, Lots of 1-9	10-24	25-49
General Purpose dB*	—	—	—	$32.85	$29.57	$27.92
A Scale VU†	$35.40	$31.86	$30.09	39.00	35.10	33.15
B Scale VU†	—	—	—	—	—	—

Range	Model 2143—3½" Net Each, Lots of 1-9	10-24	25-49	Model 2144—4½" Net Each, Lots of 1-9	10-24	25-49
General Purpose dB*	$34.95	$31.46	$29.71	$36.00	$32.40	$30.60
A Scale VU†	39.75	35.78	33.79	43.35	39.02	36.85
B Scale VU†	39.75	35.78	33.79	43.35	39.02	36.85

*Zero power level, 6 mW, 500-ohm line; 5000-ohm range. †Reference level, 1 mW, 600-ohm line; meet all electrical and ballistic specifications by Bell Labs and ASA as required by broadcasting, communication and sound engineers. Impedance, 3900 ohms at "0" VU.

WATTMETERS—DYNAMOMETER TYPE SINGLE PHASE

Accuracy, ±2% F.S. Maximum volts, 150 except 0–600 and up, 300 V. Calibrated for magnetic or non-magnetic panels; 25–125 Hz.

Range Watts	Max. Amps	Model 2173—3½" Net Each, Lots of 1-9	10-24	25-49	Model 2174—4½" Net Each, Lots of 1-9	10-24	25-49
0–75	1.0	$49.65	$44.69	$42.20	$61.65	$55.49	$52.40
0–150	2.0	49.65	44.69	42.20	61.65	55.49	52.40
0–300	4.0	49.65	44.69	42.20	61.65	55.49	52.40
0–750	10.0	49.65	44.69	42.20	61.65	55.49	52.40
0–600	4.0	54.00	48.60	45.90	65.70	59.13	55.85
0–1500	10.0	54.00	48.60	45.90	65.70	59.13	55.85
0–3000	20.0	54.00	48.60	45.90	65.70	59.13	55.85

WATTMETERS—COMPENSATED TYPE (±3% F.S. ACCURACY)

0–10	.175	$79.20	$71.28	$67.32	$82.35	$74.12	$70.00
0–20	.400	79.20	71.28	67.32	82.35	74.12	70.00
0–20*	.175	79.20	71.28	67.32	82.35	74.12	70.00
0–30	.650	79.20	71.28	67.32	82.35	74.12	70.00
0–30*	.300	79.20	71.28	67.32	82.35	74.12	70.00
0–50*	.500	79.20	71.28	67.32	82.35	74.12	70.00

*Maximum volts, 500; all others 300 volts maximum.

RF AMMETERS—SELF-SHIELDED METER MOVEMENT

Range Amps	Approx. Resis., Ohms	Model 2133—3½" Net Each, Lots of 1-9	10-24	25-49	Model 2134—4½" Net Each, Lots of 1-9	10-24	25-49
0–1	.343	—	—	—	$32.40	$29.16	$27.54
0–2	.120	$28.35	$25.52	$24.10	32.40	29.16	27.54
0–3	.08	28.35	25.52	24.10	—	—	—
0–5	.045	28.35	25.52	24.10	—	—	—
0–10	.023	28.35	25.52	24.10	32.40	29.16	27.54

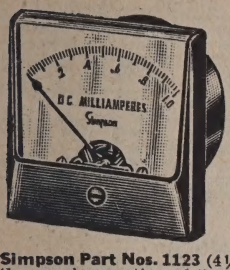
DC GALVANOMETERS—SELF-SHIELDED METER MOVEMENT

Range	Sensitivity μA	Model 2122—2½" Net Each, Lots of 1-9	10-24	25-49	Model 2123—3½" Net Each, Lots of 1-9	10-24	25-49
50–0–50	500–0–500	$23.25	$20.93	$19.76	$24.30	$21.87	$20.66
50–0–50	75–0–75	—	—	—	27.30	24.57	23.21

RANGES LISTED WITHOUT PRICES (—) ARE AVAILABLE ON SPECIAL ORDER ONLY. WRITE FOR INFORMATION.

Simpson Wide-Vue Panel Meters

INSTRUMENTS THAT STAY ACCURATE



Modern styling with durable, open face plastic cover for wide-angle readability and protection of meter face. DC meters have self-shielded meter movement (calibration not affected by stray magnetic fields or magnetic mounting). AC meters have iron-vane type movement. AC Milliammeters and Ammeters are calibrated for 25–800 Hz; Voltmeters are calibrated for use on 25–125 Hz; Wattmeters calibrated for either magnetic or non-magnetic panels and frequency range of 25–125 Hz. Other calibrations at frequencies up to 800 Hz, available on request.

Simpson Part Nos. 1123 (4½") or **1253** (3½") **Bezels**—For behind-the-panel mounting of "Wide-Vue" Meters. Net Each... **$2.70**

SPECIFICATIONS

Size	Model	Accuracy, Full Scale	Scale Lgth.	Mtg. Hole	4 Mtg. Studs on
1½"	1212, T	±2%	1.5"	1.5" dia.	1.32" centers #4-40
	1214	±3%**			
2½"	1227, T	±2%	2.3"	2.17" dia.	1.88" centers #4-40
	1247	±3%**			
	1257	±2%			
3½"	1327, T	±2%	3.14"	2.73" dia.	2.24" centers #4-40
	1337	±2%			
	1347	±3%**			
	1357	±2%			
4½"	1329, T	±2%	3.93"	2.75" dia.	4" x 3.56" centers #6-32
	1339	±2%			
	1349	±3%**			
	1359	±2%			
	1379	±2%			

**At 25° C and 60 Hz sine wave.

DC PANEL METERS—MODELS 1212, 1227, 1227T, 1327, 1327T, 1329 AND 1329T

DC VOLTMETERS—SELF-SHIELDED METER MOVEMENT (1000 OHMS/VOLT EXCEPT AS NOTED)

MODEL 1212—1½"

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$23.10	$20.79	$19.64
0–8	—	—	—
0–10	23.10	20.79	19.64
0–15	23.10	20.79	19.64
0–25	23.10	20.79	19.64
0–30	23.10	20.79	19.64
0–50	23.10	20.79	19.64
0–100	23.10	20.79	19.64
0–150	23.10	20.79	19.64
0–200	—	—	—
0–250	—	—	—
0–300	—	—	—
0–300*	23.10	20.79	19.64
0–500*†	28.80	25.92	24.48
0–750*	—	—	—
0–1000*	—	—	—

MODEL 1227—2½"

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$24.75	$22.28	$21.04
0–8	—	—	—
0–10	24.75	22.28	21.04
0–15	24.75	22.28	21.04
0–25	24.75	22.28	21.04
0–30	24.75	22.28	21.04
0–50	24.75	22.28	21.04
0–100	24.75	22.28	21.04
0–150	24.75	22.28	21.04
0–200	24.75	22.28	21.04
0–250	24.75	22.28	21.04
0–300	24.75	22.28	21.04
0–300*	—	—	—
0–500*	25.65	23.09	21.80
0–750*†	31.05	27.95	26.39
0–1000*†	32.10	28.89	27.29

MODEL 1327—3½"

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$25.65	$23.09	$21.80
0–8	25.65	23.09	21.80
0–10	25.65	23.09	21.80
0–15	25.65	23.09	21.80
0–25	25.65	23.09	21.80
0–30	25.65	23.09	21.80
0–50	25.65	23.09	21.80
0–100	25.65	23.09	21.80
0–150	25.65	23.09	21.80
0–200	25.65	23.09	21.80
0–250	25.65	23.09	21.80
0–300	25.65	23.09	21.80
0–300*	—	—	—
0–500*	26.85	24.17	22.82
0–750*	26.85	24.17	22.82
0–1000*†	33.00	29.70	28.05

MODEL 1329—4½"

Range	Net Each, Lots of 1-9	10-24	25-49
0–5 Volts	$27.90	$25.11	$23.72
0–8	27.90	25.11	23.72
0–10	27.90	25.11	23.72
0–15	27.90	25.11	23.72
0–25	27.90	25.11	23.72
0–30	27.90	25.11	23.72
0–50	27.90	25.11	23.72
0–100	27.90	25.11	23.72
0–150	27.90	25.11	23.72
0–200	27.90	25.11	23.72
0–250	27.90	25.11	23.72
0–300	27.90	25.11	23.72
0–300*	—	—	—
0–500*	28.95	26.06	24.61
0–750*	28.95	26.06	24.61
0–1000*†	35.40	31.86	30.09

DC AMMETERS—SELF-SHIELDED METER MOVEMENT

Self-contained types are: 1½" through 10 amps; 2½", 3½" and 4½" through 50 amps. All others require external shunts.

MODEL 1212—1½"

0–1 Amps	$23.10	$20.79	$19.64
0–1.5	—	—	—
0–2	23.10	20.79	19.64
0–3	23.10	20.79	19.64
0–5	23.10	20.79	19.64
0–10	23.10	20.79	19.64
0–15	23.10	20.79	19.64
0–25	23.10	20.79	19.64
0–30	—	—	—
0–50	23.10	20.79	19.64
0–100	—	—	—
0–150	—	—	—
0–200	—	—	—
0–300	—	—	—
0–500	—	—	—
15–0–15	—	—	—
30–0–30	—	—	—
50–0–50	—	—	—

MODEL 1227—2½"

0–1 Amps	$23.70	$21.33	$20.15
0–1.5	23.70	21.33	20.15
0–2	23.70	21.33	20.15
0–3	23.70	21.33	20.15
0–5	23.70	21.33	20.15
0–10	23.70	21.33	20.15
0–15	23.70	21.33	20.15
0–25	23.70	21.33	20.15
0–30	23.70	21.33	20.15
0–50	23.70	21.33	20.15
0–100	23.70	21.33	20.15
0–150	23.70	21.33	20.15
0–200	23.70	21.33	20.15
0–300	23.70	21.33	20.15
0–500	—	—	—
15–0–15	—	—	—
30–0–30	—	—	—
50–0–50	—	—	—

MODEL 1327—3½"

0–1 Amps	$24.75	$22.28	$21.04
0–1.5	24.75	22.28	21.04
0–2	24.75	22.28	21.04
0–3	24.75	22.28	21.04
0–5	24.75	22.28	21.04
0–10	24.75	22.28	21.04
0–15	24.75	22.28	21.04
0–25	24.75	22.28	21.04
0–30	24.75	22.28	21.04
0–50	24.75	22.28	21.04
0–100	24.75	22.28	21.04
0–150	24.75	22.28	21.04
0–200	24.75	22.28	21.04
0–300	24.75	22.28	21.04
0–500	24.75	22.28	21.04
15–0–15	26.10	23.49	22.19
30–0–30	26.10	23.49	22.19
50–0–50	26.10	23.49	22.19

MODEL 1329—4½"

0–1 Amps	$26.85	$24.17	$22.82
0–1.5	26.85	24.17	22.82
0–2	26.85	24.17	22.82
0–3	26.85	24.17	22.82
0–5	26.85	24.17	22.82
0–10	26.85	24.17	22.82
0–15	26.85	24.17	22.82
0–25	26.85	24.17	22.82
0–30	26.85	24.17	22.82
0–50	26.85	24.17	22.82
0–100	26.85	24.17	22.82
0–150	26.85	24.17	22.82
0–200	26.85	24.17	22.82
0–300	26.85	24.17	22.82
0–500	26.85	24.17	22.82
15–0–15	—	—	—
30–0–30	—	—	—
50–0–50	—	—	—

DC MILLIAMMETERS—SELF-SHIELDED METER MOVEMENT

Self contained. Voltage drop, 150 mV or less.

MODEL 1212—1½"

0–1 mA	$22.05	$19.85	$18.74
0–3	—	—	—
0–5	22.05	19.85	18.74
0–10	22.05	19.85	18.74
0–15	22.05	19.85	18.74
0–20	—	—	—
0–25	23.10	20.79	19.64
0–50	23.10	20.79	19.64
0–100	23.10	20.79	19.64
0–150	23.10	20.79	19.64
0–200	23.10	20.79	19.64
0–250	23.10	20.79	19.64
0–300	23.10	20.79	19.64
0–500	23.10	20.79	19.64

MODEL 1227—2½"

0–1 mA	$23.25	$20.93	$19.76
0–3	23.25	20.93	19.76
0–5	23.25	20.93	19.76
0–10	23.25	20.93	19.76
0–15	23.25	20.93	19.76
0–20	23.25	20.93	19.76
0–25	23.70	21.33	20.15
0–50	23.70	21.33	20.15
0–100	23.70	21.33	20.15
0–150	23.70	21.33	20.15
0–200	23.70	21.33	20.15
0–250	23.70	21.33	20.15
0–300	23.70	21.33	20.15
0–500	23.70	21.33	20.15
0–750	—	—	—
0–1000	23.70	21.33	20.15

MODEL 1327—3½"

0–1 mA	$24.00	$21.60	$20.40
0–3	24.00	21.60	20.40
0–5	24.00	21.60	20.40
0–10	24.00	21.60	20.40
0–15	24.00	21.60	20.40
0–20	24.00	21.60	20.40
0–25	24.75	22.28	21.04
0–50	24.75	22.28	21.04
0–100	24.75	22.28	21.04
0–150	24.75	22.28	21.04
0–200	24.75	22.28	21.04
0–250	24.75	22.28	21.04
0–300	24.75	22.28	21.04
0–500	24.75	22.28	21.04
0–750	24.75	22.28	21.04
0–1000	24.75	22.28	21.04

MODEL 1329—4½"

0–1 mA	$25.65	$23.09	$21.80
0–3	25.65	23.09	21.80
0–5	25.65	23.09	21.80
0–10	25.65	23.09	21.80
0–15	25.65	23.09	21.80
0–20	25.65	23.09	21.80
0–25	26.85	24.17	22.82
0–50	26.85	24.17	22.82
0–100	26.85	24.17	22.82
0–150	26.85	24.17	22.82
0–200	26.85	24.17	22.82
0–250	26.85	24.17	22.82
0–300	26.85	24.17	22.82
0–500	26.85	24.17	22.82
0–750	26.85	24.17	22.82
0–1000	26.85	24.17	22.82

DC MICROAMMETERS—SELF-SHIELDED TAUT BAND METER MOVEMENT

MODEL 1212T—1½"

0–5 μA	—	—	—
0–10	—	—	—
0–15	$43.35	$39.02	$36.85
0–25	40.35	36.32	34.30
0–50	31.80	28.62	27.03
0–100	28.35	25.52	24.10
0–200	26.25	23.63	22.40

MODEL 1227T—2½"

0–5 μA	—	—	—
0–10	$47.70	$42.93	$40.55
0–15	43.35	39.02	36.85
0–25	41.25	37.13	35.06
0–50	32.40	29.16	27.54
0–100	29.40	26.46	24.99
0–200	27.60	24.84	23.46

MODEL 1327T—3½"

0–5 μA‡	$56.54	$50.89	$48.06
0–10	49.61	44.65	42.17
0–15	44.42	39.98	37.76
0–25	43.00	38.70	36.55
0–50	32.92	29.63	27.98
0–100	30.40	27.36	25.84
0–200	28.67	25.80	24.37

MODEL 1329T—4½"

0–5 μA‡	$60.01	$54.01	$51.01
0–10	53.71	48.34	45.65
0–15	48.35	43.52	41.10
0–25	46.78	42.10	39.76
0–50	35.44	31.90	30.12
0–100	41.95	37.76	35.66
0–200	31.66	28.49	26.91

DC MICROAMMETERS—SELF-SHIELDED METER MOVEMENT

MODEL 1212—1½"

0–50 μA	$28.95	$26.06	$24.61
0–100	25.80	23.22	21.93
0–200	23.55	21.20	20.02
0–500	23.10	20.79	19.64
25–0–25	26.10	23.49	22.19
50–0–50	23.70	21.33	20.15
100–0–100	22.50	20.25	19.13
500–0–500			

MODEL 1227—1½"

0–50 μA	$29.85	$26.87	$25.37
0–100	26.85	24.17	22.82
0–200	24.30	21.87	20.66
0–500	24.00	21.60	20.40
25–0–25	—	—	—
50–0–50	27.30	24.57	23.21
100–0–100	24.75	22.28	21.04
500–0–500			

MODEL 1327—3½"

0–50 μA	$30.40	$27.36	$25.84
0–100	27.88	25.09	23.70
0–200	25.52	22.97	21.69
0–500	25.20	22.68	21.42
25–0–25	30.71	27.64	26.10
50–0–50	27.88	25.09	23.70
100–0–100	25.67	23.10	21.82
500–0–500	24.26	21.83	20.62

MODEL 1329—4½"

0–50 μA	$32.76	$29.48	$27.85
0–100	31.03	27.93	26.38
0–200	27.88	25.09	23.70
0–500	27.25	24.53	23.16
25–0–25	32.92	29.63	27.98
50–0–50	31.19	28.07	26.51
100–0–100	28.35	25.52	24.10
500–0–500	25.67	23.10	21.82

*2000 ohms/volt. †External multiplier furnished; all others self-contained. ‡High flux annular.

RANGES LISTED WITHOUT PRICES (—) ARE AVAILABLE ON SPECIAL ORDER ONLY. **CONTINUED, NEXT PAGE**

Simpson Wide-Vue Panel Meters

INSTRUMENTS THAT STAY ACCURATE

DC MILLIVOLTMETERS—SELF-SHIELDED METER MOVEMENT

MODEL 1212—1½″

Range mV	Net Each, Lots of 1-9	10-24	25-49
0–50	$23.10	$20.79	$19.64
50–0–50	—	—	—

MODEL 1227—2½″

Range mV	Net Each, Lots of 1-9	10-24	25-49
0–50	$23.70	$21.33	$20.15
50–0–50	—	—	—

MODEL 1327—3½″

Range mV	Net Each, Lots of 1-9	10-24	25-49
0–50	$24.75	$22.28	$21.04
50–0–50	24.75	22.28	21.04

MODEL 1329—4½″

Range mV	Net Each, Lots of 1-9	10-24	25-49
0–50	$26.85	$24.17	$22.82
50–0–50	26.85	24.17	22.82

DC GALVANOMETERS—SELF-SHIELDED METER MOVEMENT

Range	Sensitivity μA	Model 1212—1½″ Net Each, Lots of 1-9	10-24	25-49	Model 1227—2½″ Net Each, Lots of 1-9	10-24	25-49
50–0–50	500–0–500	$22.50	$20.25	$19.13	$23.25	$20.93	$19.76
50–0–50	75–0–75	23.70	21.33	20.15	25.20	22.68	21.42

Range	Sensitivity μA	Model 1327—3½″ Net Each, Lots of 1-9	10-24	25-49	Model 1329—4½″ Net Each, Lots of 1-9	10-24	25-49
50–0–50	500–0–500	$27.30	$24.57	$23.21	$25.80	$23.22	$21.93
50–0–50	75–0–75	23.25	20.93	19.76	29.85	26.87	25.37

AC PANEL METERS—MODELS 1257, 1357, AND 1359

AC VOLTMETERS—IRON VANE TYPE MOVEMENT (SELF-CONTAINED EXCEPT 0-500 V)

MODEL 1257—2½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	—	—	—
0–10 or 0–15	$22.50	$20.25	$19.13
0–25 or 0–50	22.50	20.25	19.13
0–100	23.10	20.79	19.64
0–150	23.55	21.20	20.02
0–250 or 0–300	23.55	21.20	20.02
0–500	29.85	26.87	25.37

MODEL 1357—3½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$23.55	$21.20	$20.02
0–10 or 0–15	23.55	21.20	20.02
0–25 or 0–50	23.55	21.20	20.02
0–100	24.30	21.87	20.66
0–150	25.20	22.68	21.42
0–250 or 0–300	25.20	22.68	21.42
0–500	31.95	28.76	27.16

MODEL 1359—4½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$26.25	$23.63	$22.31
0–10 or 0–15	26.25	23.63	22.31
0–25 or 0–50	26.25	23.63	22.31
0–100	26.25	23.63	22.31
0–150	26.85	24.17	22.82
0–250 or 0–300	26.85	24.17	22.82
0–500	34.05	30.65	28.94

AC AMMETERS—IRON VANE TYPE MOVEMENT

The following meters are self contained: 2½″ through 50 amps, 3½″ and 4½″ through 75 amps. Higher range AC ammeters are 5-amp meters to be used with external current transformer.

MODEL 1257—2½″

Range Amps	Approx. Resis., Ohms	Net Each. Lots of 1-9	10-24	25-49
0–1	.213	$21.30	$19.17	$18.11
0–1.5	.105	21.30	19.17	18.11
0–2	.065	—	—	—
0–3	.028	21.30	19.17	18.11
0–5	.008	21.30	19.17	18.11
0–10	.004	21.30	19.17	18.11
0–15	.0025	21.30	19.17	18.11
0–25	.002	22.05	19.85	18.74
0–30	.0015	22.05	19.85	18.74
0–50	.001	22.05	19.85	18.74
0–75	.008	—	—	—
0–100	.008	21.30	19.17	18.11
0–150	.008	21.30	19.17	18.11
0–200	.008	21.30	19.17	18.11
0–300	.008	21.30	19.17	18.11

MODEL 1357—3½″

Range Amps	Approx. Resis., Ohms	Net Each, Lots of 1-9	10-24	25-49
0–1	.213	$22.50	$20.25	$19.13
0–1.5	.105	22.50	20.25	19.13
0–2	.065	22.50	20.25	19.13
0–3	.028	22.50	20.25	19.13
0–5	.008	22.50	20.25	19.13
0–10	.004	22.50	20.25	19.13
0–15	.0025	22.50	20.25	19.13
0–25	.002	23.25	20.93	19.76
0–30	.0015	23.25	20.93	19.76
0–50	.001	23.25	20.93	19.76
0–75	.008	25.20	22.68	21.42
0–100	.008	22.50	20.25	19.13
0–150	.008	22.50	20.25	19.13
0–200	.008	22.50	20.25	19.13
0–300	.008	22.50	20.25	19.13

MODEL 1359—4½″

Range Amps	Approx. Resis., Ohms	Net Each, Lots of 1-9	10-24	25-49
0–1	.213	$23.85	$21.47	$20.27
0–1.5	.105	23.85	21.47	20.27
0–2	.065	23.85	21.47	20.27
0–3	.028	23.85	21.47	20.27
0–5	.008	23.85	21.47	20.27
0–10	.004	23.85	21.47	20.27
0–15	.0025	23.85	21.47	20.27
0–25	.002	24.75	22.28	21.04
0–30	.0015	24.75	22.28	21.04
0–50	.001	24.75	22.28	21.04
0–75	.008	26.85	24.17	22.82
0–100	.008	23.85	21.47	20.27
0–150	.008	23.85	21.47	20.27
0–200	.008	23.85	21.47	20.27
0–300	.008	23.85	21.47	20.27

AC MILLIAMMETERS—IRON VANE TYPE MOVEMENT—Ranges: 0–10, 0–50, 0–100, 0–250, 0–500 mA; specify.

MODEL 1257—2½″

Range, mA (Specify)	Net Each, Lots of 1-9	10-24	25-49
Any range	$21.30	$19.17	$18.11

MODEL 1357—3½″

Range, mA (Specify)	Net Each, Lots of 1-9	10-24	25-49
Any range	$22.50	$20.25	$19.13

MODEL 1359—4½″

Range, mA (Specify)	Net Each, Lots of 1-9	10-24	25-49
Any range	$23.85	$21.47	$20.27

DUAL-RANGE AC PANEL METERS, MODELS 1357 AND 1359, 0-150 AC VOLTS/0-5 AC AMPERES

Single instrument measures both volts and amps. For use in many common applications using an AC voltmeter and ammeter in pairs. Lets you save on panel space and purchasing cost. Can also measure extended AC current ranges through an accessory transformer. Available in 3½″ and 4½″ sizes, in Century Models and Wide-Vue.

Wide-Vue Dual-Range Meter Model No.	Size	Net Each, Lots of 1-9	10-24	25-49
1357	3½″	$32.10	$28.89	$27.29
1359	4½″	34.20	30.78	29.07

RECTIFIER TYPE AC VOLTMETERS—SELF-SHIELDED METER MOVEMENT—2,000 OHMS/VOLT RESISTANCE

MODEL 1214—1½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$31.80	$28.62	$27.03
0–10	31.80	28.62	27.03
0–15	—	—	—
0–50	—	—	—
0–150	31.80	28.62	27.03
0–300	31.80	28.62	27.03

MODEL 1247—2½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$29.40	$26.46	$24.99
0–10	29.40	26.46	24.99
0–15	—	—	—
0–50	—	—	—
0–150	29.40	26.46	24.99
0–300	29.40	26.46	24.99

MODEL 1347—3½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$33.60	$30.24	$28.56
0–10	33.60	30.24	28.56
0–15	33.60	30.24	28.56
0–50	33.60	30.24	28.56
0–150	33.60	30.24	28.56
0–300	33.60	30.24	28.56

MODEL 1349—4½″

Range Volts	Net Each, Lots of 1-9	10-24	25-49
0–5	$37.20	$33.48	$31.62
0–10	37.20	33.48	31.62
0–15	37.20	33.48	31.62
0–50	37.20	33.48	31.62
0–150	37.20	33.48	31.62
0–300	37.20	33.48	31.62

VOLUME LEVEL INDICATORS—SELF-SHIELDED METER MOVEMENT

Range	Model 1214—1½″ Net Each, Lots of 1-9	10-24	25-49	Model 1247—2½″ Net Each, Lots of 1-9	10-24	25-49
General Purpose dB*	—	—	—	$32.85	$29.57	$27.92
A Scale VU†	$35.40	$31.86	$30.09	39.00	35.10	33.15
B Scale VU†	—	—	—	—	—	—

Range	Model 1347—3½″ Net Each, Lots of 1-9	10-24	25-49	Model 1349—4½″ Net Each, Lots of 1-9	10-24	25-49
General Purpose dB*	$34.95	$31.46	$29.71	$36.00	$32.40	$30.60
A Scale VU†	39.75	35.78	33.79	43.35	39.02	36.85
B Scale VU†	39.75	35.78	33.79	43.35	39.02	36.85

*Reference level, 1 mW 600-ohm line. †Reference level, 1 mW 600-ohm line; meet all electrical and ballistic specifications by Bell Labs and ASA as required by broadcasting, communication and sound engineers. Impedance 3900 ohms at "0" VU deflection.

RF AMMETERS—SELF-SHIELDED METER MOVEMENT

Range	Approx. Resis., Ohms	Model 1337—3½″ Net Each, Lots of 1-9	10-24	25-49	Model 1339—4½″ Net Each, Lots of 1-9	10-24	25-49
0–1	.343	$28.35	$25.52	$24.10	$32.40	$29.16	$27.54
0–1.5	.200	28.35	25.52	24.10	32.40	29.16	27.54
0–2	.120	28.35	25.52	24.10	32.40	29.16	27.54
0–2.5	.10	28.35	25.52	24.10	32.40	29.16	27.54
0–3	.08	28.35	25.52	24.20	32.40	29.16	27.54
0–5	.045	28.35	25.52	24.10	32.40	29.16	27.54
0–8	.031	28.35	25.52	24.10	32.40	29.16	27.54
0–10	.023	28.35	25.52	24.10	32.40	29.16	27.54

RF MILLIAMMETERS

0–500	.63	$33.39	$30.05	$28.38	$37.64	$33.88	$31.99

WATTMETERS—MODEL 1379—4½″

DYNAMOMETER TYPE SINGLE PHASE

Range Watts	Range Volts	Max. Amps	Net Each, Lots of 1-9	10-24	25-49
0–75	150	1.0	$61.65	$55.49	$52.40
0–150	150	2.0	61.65	55.49	52.40
0–300	150	4.0	61.65	55.49	52.40
0–750	150	10.0	61.65	55.49	52.40
0–600	300	4.0	65.70	59.13	55.85
0–1500	300	10.0	65.70	59.13	55.85
0–3000	300	20.0	65.70	59.13	55.85
COMPENSATED TYPE					
0–10	300	.175	$82.35	$74.12	$70.00
0–20	300	.400	82.35	74.12	70.00
0–30	300	.650	82.35	74.12	70.00

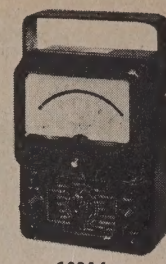
RANGES LISTED WITHOUT PRICES (—) ARE AVAILABLE ON SPECIAL ORDER ONLY.

EICO Truvohm™ Multimeters

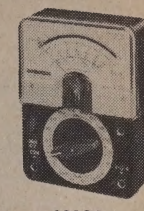
NEW MODEL 100T6 VOM AND TRANSISTOR TESTER

Extremely sensitive 100,000 ohms/volt VOM with easy-to-operate direct reading transistor tester that measures alpha, beta and leakage. Sensitive 7.5 μA taut band meter movement protected by dual silicon diodes. VOM RANGES—**AC Volts:** 0–6, 30, 300, 600 V at 10,000 ohms/V. **DC mV:** 0–0.12, 0.6 V at 100,000 ohms/V. **DC Volts:** 0–3, 12, 30, 120, 600 V at 100,000 ohms/V. **Ohms:** RX10, X1K, X0.1M. **DC Current:** 0–12, 600μA at 250 mV; 0–12, 300 mA at 250 mV; 0–12 A at 250 mV. **Decibels:** −20 to +58 dB. **Capacitance:** 0–0.04, 0.2 μF. TRANSISTOR TESTER FUNCTIONS—Measured directly for most PNP and NPN transistors. **Alpha:** 0–0.9965. **Beta:** 0–285. Ico; 0–12, 48 μA. **Size:** 5 1/16″ w. x 2 1/2″ d. x 6 7/8″ h.
Eico Model 100T6—Complete with batteries and test leads.
Net Each..... **$69.95**

100T6



100A4



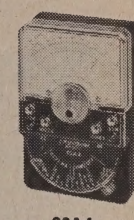
100C3

MODEL 100A4 VOM

Low cost multimeter combines minimal circuit loading with wide range functional utility in a battery operated, portable VOM. Features: Double-jewelled ±2% D'Arsonval meter movement; full-view 4″ mirror-back two-color scale; a matched pair of silicon diode prevents overload of meter movement; high impact custom molded case protects against shock; integral handle for convenient positioning and portability. **AC Volts:** 0–2.5, 10, 50, 250 and 1000 V rms; sensitivity, 12.5K ohms/volt. **DC Volts:** 0–500 mV, 2.5, 10, 50, 250, 500 and 1000 volts; sensitivity, 100K ohms/volt. **Ohms:** 0–20K, 200K, 2 megs, 20 megohms. **DC Current:** 0–10, 250 μA; 0–2.5, 250 mA; 0–10 A. **Decibels:** −20 dB to +62 dB in 5 ranges. **Accuracy:** 2%. **Size:** 5 1/4″ w. x 3 1/4″ d. x 7 1/2″ h.
Eico Model 100A4—Complete with batteries, test leads.
Net Each..... **$54.95**
Eico Carrying Case—Optional for Model 100A4. Net... **5.95**

30A4

30A3



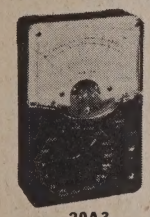
20A4

NEW MODEL 100C3 MULTIMETER

Laboratory type wide range instrument in a compact case features 100,000 ohms/volt DC and 10,000 ohms/volt AC sensitivity; 8.5 μA taut band meter movement is overload protected and low 0.3 VDC range for testing semiconductor circuits. Measure resistance to 200 megs using built-in battery. **AC Volts:** 0–6, 30, 120, 300, 600 at 10K ohms/V. **DC Volts:** 0–0.3, 1.2, 6, 30, 300 at 100K ohms/V; 0–600, 3000 at 20K ohms/V. **DC Current:** 0–12 μA, 600 μA, 12 mA, 300 mA. **Resistance:** 0–2K, 20K, 200K, 200 megs. **Capacitance:** 0–0.01, 0.2 μF. **Decibels:** −20 to +58 dB. **Size:** 3 7/8″ w. x 1 5/8″ d. x 5 1/4″ h.
Eico Model 100C3—Complete with batteries and test leads.
Net Each..... **$44.95**

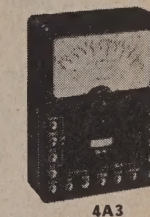
MODEL 30A4 VOM

Finest pocket portable laboratory type, wide-range multimeter features: Mirror back scale to eliminate parallax; ±1% temperature stabilized resistors; double jewelled ±2% D'Arsonval meter movement protected against overload; separate input for measuring AC volts in the presence of DC. Comes in a handsome, custom molded, high impact plastic case. **AC Volts:** 0–6, 30, 120, 600 and 1200 V rms; sensitivity, 10K ohms/volt. **DC Volts:** 0–0.6, 3, 12, 60, 300, 600, 1200, 3000 volts; sensitivity, 30K ohms/volt. **Ohms:** X1, X100, X1K, X10K. **DC Current:** 0–30 μA; 0–60, 600 mA. **Decibels:** −20 to +63 dB in 5 ranges. **Size:** 3 3/16″ w. x 1 11/16″ d. x 5 7/8″ h.
Eico Model 30A4—Complete with batteries, test leads.
Net Each..... **$37.95**



20A3

1A1



4A3

300C

MODEL 30A3 VOM

Palm-sized instrument for precision measurement and minimum circuit loading. Features: Anti-parallax mirror-back scale; double-jewelled ±2% D'Arsonval meter; ±1% temperature-compensated precision film resistors; dual silicon diode overload protection circuit. High impact molded case. **AC Volts:** 0–12, 60, 300, 1200 V rms; sensitivity, 14K ohms/volt. **DC Volts:** 0–0.6, 3, 12, 60, 300, 1200 volts; sensitivity, 30K ohms/volt. **Ohms:** X1, X100, X1000. **DC Current:** 0–60 μA; 0–12, 300 mA. **Decibels:** −10 to +23 dB up to 7 kHz. **Size:** 3 3/8″ w. x 1 3/8″ d. x 5 1/8″ h.
Eico Model 30A3—Complete with batteries, test leads.
Net Each..... **$31.95**

MODEL 20A4 MULTIMETER

Versatile, high impedance vohm meets professional standards. Lets you read voltage, current and resistance accurately on each of the 18 precise ranges. Has lever type range selector switch, easy-to-read 3″ meter. The 20,000 ohm/volt DC meter and 10,000 ohm/volt AC section can be used without disturbing most circuits. Accurate reading of resistance to 60 megohms. **AC Voltage:** 0–5, 25, 100, 500, 1000 volts at 10K ohms/volt. **DC Voltage:** 0–5, 25, 100, 500, 1000 volts at 20K ohms/volt. **DC Current:** 0–5 μA, 0–5, 50, 500 mA. **Decibels:** −20 to +64 dB. **Size:** 3″ w. x 1 1/4″ d. x 4 5/8″ h. Weight, 14 oz.
Eico Model 20A4—Complete with batteries, test leads and carrying case. Net Each..... **$29.95**

MODEL 20A3 VOM

Modestly priced, high precision, pocket portable multimeter makes 16 different types of measurements possible. Easy-to-read meter features a double-jewelled D'Arsonval movement. Custom-molded high impact case. **AC Volts:** 0–10, 50, 250, 500, 1000 V rms; sensitivity, 10K ohms/volt. **DC Volts:** 0–0.25, 2.5, 10, 50, 250, 1000 volts; sensitivity, 20K ohms/volt. **Ohms:** 0–7K, 700K, 7 megohms. **DC Current:** 0–50 μA; 0–25, 250 mA. **Decibels:** −10 to +36 dB. **Accuracy:** 2% meter movement. **Size:** 3 3/8″ w. x 1 3/8″ d. x 5 1/8″ h.
Eico Model 20A3—Complete with batteries, test leads.
Net Each..... **$26.95**

MODEL 4A3 VOM

Miniature pocket portable is small but versatile general utility multimeter. Excellent for repair and service work on electrical appliances and radios. High impact case for normal service uses. **AC Volts:** 0–10, 50, 250, 500, 1000 V rms, sensitivity, 2K ohms/volt. **DC Volts:** 0–10, 50, 250, 1000 volts; sensitivity, 4K ohms/volt. **Ohms:** 0–10K, 1 megohm. **DC Current:** 0–250 μA; 0–10, 250 mA. **Accuracy:** 2% meter movement. **Decibels:** −20 to +36 dB. **Size:** 3 7/16″ w. x 1 9/16″ d. x 4 3/4″ h.
Eico Model 4A3—Complete with batteries, test leads.
Net Each..... **$21.95**

MODEL 1A1 VOM

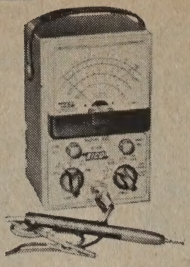
Go-everywhere, lightweight, shirt-pocket multimeter best suited for busy technician or hobbyist. Rugged double-jewelled D'Arsonval meter movement and ±1% tolerance stabilized resistors are cushioned in a high-impact plastic case. Enables 11 types of measurements. **AC Volts:** 0–10, 50, 250, 1000 V rms; sensitivity, 1K ohms/volt. **DC Volts:** 0–10, 50, 250, 1000 volts; sensitivity, 1K ohms/volt. **Ohms:** 0–150K ohms. **DC Current:** 0–1, 100 mA. **Accuracy:** 2% meter movement. **Size:** 2 3/16″ w. x 1 1/8″ d. x 3 5/8″ h.
Eico Model 1A1—Complete with batteries, test leads.
Net Each..... **$9.95**

MODEL 300C "CLAMP-ON" CURRENT TESTER MULTIMETER

Compact, clamp-on current tester is combination AC voltmeter, AC ammeter, and ohmmeter. Portable instrument is lightweight and versatile. Measures AC current without breaking the circuit. Clamp-on insulated jaws snap around single conductor. Meter instantly indicates correct reading. Test leads plug in for voltage and resistance checks. Rotary scale reveals only one range at a time. Pointer lock freezes readings; measure in dark, read in light. **Measurement Ranges:** AC current, 0–6, 15, 60, 150, 300. AC Voltage: 0–150, 300, 600. **Accuracy:** ±3%. Size 2 5/8″ w. x 1 1/2″ d. x 7 1/2″ h. Weight, 2 lbs.
Eico Model 300C—Complete with battery, test leads and carrying case. Net Each..... **$54.95**

EICO LABORATORY PRECISION INSTRUMENTS & KITS

235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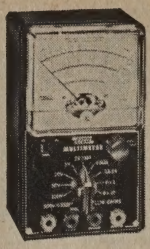
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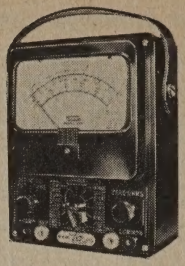
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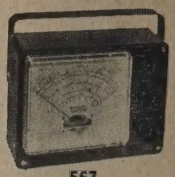
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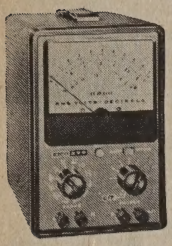
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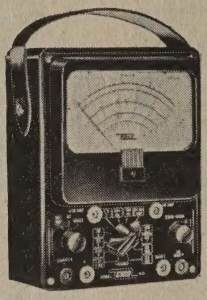
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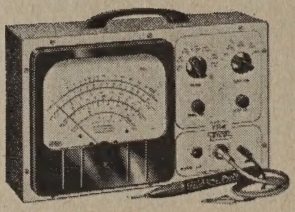
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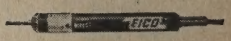
UP Uni-Probe


VTVM Probe

High Voltage Probe

MODEL 232 PEAK-TO-PEAK VTVM

Professional quality VTVM for all TV/FM/AM servicing, gives true peak-to-peak measurements of complex voltage waveforms on separate scales. Provides dynamic rms and DC voltage measurements with negligible circuit leading. Exclusive Eico Uniprobe selects all measurement functions. Offers exceptional stability and accuracy; 7 non-skip ranges on every function; 4½" meter in "can't burn out" circuit. Calibration without removing from cabinet; zero center; 1% multipliers. **AC Volts:** 0–4, 14, 42, 140, 420, 1400, 4200 peak to peak. **rms Sine Volts:** 0–1.5, 5, 15, 50, 150, 500, 1500. **DC Volts:** 0–1.5, 5, 15, 50, 150, 500, 1500 (up to 30,000 with HVP probe). **Frequency Response:** 30 Hz to 3 MHz (up to 250 MHz with PRF probe). **Ohms:** 0.2 ohm to 1000 megohms. **Battery:** 1.5 V. **Power Required:** 5 watts, 117 VAC, 60 Hz. **Size:** 5" w. x 5" d. x 8½" h. Weight, 5 lbs.
Model 232 VTVM—Wired, ready to use. Net Each....**$69.95**
Model 232K VTVM Kit—Net Each..... **44.95**

MODEL 249 DELUXE PEAK-TO-PEAK VTVM

Measures directly p-p voltage of complex and sine waves; 0–4, 14, 42, 140, 420, 1400, 4200. **DC/rms Sine Volts:** 0–1.5, 5, 15, 50, 150, 500, 1,500 (up to 30,000 V with HVP probe and 250 MHz with PRF probe). **Ohms:** 0.2 ohm to 1,000 megs. Seven non-skip ranges on every function. Calibration without removing from cabinet. 7½" meter with "can't-burn-out" circuit. 1% multipliers. Zero center. With AC/DC Uni-Probe: One probe for all functions—half-turn of probe tip selects DC or AC ohms. **Power:** 5 watts, 117 VAC, 60 Hz.
Model 249 VTVM—Wired, ready to use. Net Each....**$89.95**
Model 249K VTVM Kit—Net Each..... **59.95**

MODEL 235 PROFESSIONAL VTVM

Full scale, ½ volt, DC transistor servicing range for accurate measurements down to as little as 0.01 volt. Deluxe, full view, 6", 200 microamp meter movement, dual purpose AC/DC Uni-Probe. Both p-p and rms AC voltages read on separate scales in seven overlapping ranges up to 4.2 kV. Ceramic switches assure non-arcing at all inputs within the unit's capability. **DC Ranges:** 0–0.5, 1.5, 5, 15, 50, 150, 500, 1500 (to 30,000 volts with optional HVP-2 probe). **AC P-P Ranges:** 0–4, 14, 42, 140, 420, 1400, 4200. **AC rms Ranges:** 0–1.5, 5, 15, 50, 150, 500, 1500. **Resistance Ranges:** 7 from 0.2 ohm to 1000 megohms. **Frequency Response:** 30 Hz to 3 MHz, ±1 dB (up to 250 MHz with optional PRF probe). **Input Resistance:** 11 megohms, DC; 1 megohm AC shunted by 60 pF. **Power Required:** 117 VAC, 50 or 60 Hz; 6 watts. **Size:** 7½" w. x 5" d. x 8½" h. Wt., 9 lbs.
Model 235 VTVM—Wired; leads less battery. Net Ea....**$99.95**
Model 235K VTVM Kit—Net Each..... **74.95**

MODEL 239 SOLID STATE FET TVM

Although designed primarily for semiconductor circuit testing, Model 239 solid state FET TVM is capable of vacuum tube circuitry. Precision 1-volt scale allows accurate readings to as low as 0.05 volt and can give good indications down to 0.01 volt. Other high accuracy scales give direct readings up to 1000 volts. Large 4½" 200μA meter responds to peak-to-peak voltages on 7 AC ranges. Wide range ohmmeter covers from 0.2 to 1000 megohms in 7 steps. Low voltage is used in seven ohmmeter ranges to insure against damaging any semiconductors in equipment under test. Time saving single probe for all measurements. Balanced transistor meter circuit and 1% resistors assure high stability and accuracy. Advanced design FET input stage provides extremely high input impedance (11 megohms DC). FET is fully protected against damage by fast-acting semiconductor and capacitor circuits. **AC RMS Sine Wave and DC Voltage Ranges:** 0–1, 3, 10, 30, 100, 300, 1000 volts. **Peak-to-Peak AC Voltage Ranges:** 0–2.8, 8.5, 28, 85, 280, 850, 2800 volts. **Input Impedance:** 11 megohm DC; 1 megohm AC. **Frequency Response:** 25 Hz to 2 MHz. **Ohmmeter:** 0.2 ohms to 1000 megohms in 7 ranges. **Meter Movement:** 4½", 200 μA movement. **Power Required:** 3 Neda #1604-9 volt batteries and 1–1.5 volt size D cell. **Size:** 5¾" w. x 5" d. x 8½" h. Weight, 6 lbs.
Model 239 Solid State FET TVM—Wired. Net Each...**$79.95**
Model 239K Solid State FET TVM—Kit. Net Each....**$49.95**

MODEL 242 SOLID STATE FET TVOM

Versatile ohms-volts-milliameter effectively tests both vacuum tube and semiconductor circuits. Accurate current section can be used for AC and DC measurements from 10 μA to 1 A in seven 10 dB ranges. Low 1-volt scale allows accurate reading, as low as 0.05 volt, while giving good indications down to 0.01 volt. Direct readings may be made to 1,000 volts. Single all-purpose DC/AC/ohms/mA Uni-Probe; high input impedance using FET; peak-to-peak measurements of VAC and mA on large 6½" meter; 7 non-skip ranges in professional 10 dB steps; AC line or battery operated. **VAC Ranges:** Peak to peak, 0–2.8, 8.5, 28, 85, 280, 850, 2800. **AC rms Sine Wave and VDC Ranges:** 0–1, 3, 10, 30, 100, 300, 1,000. **AC and DC Current Ranges:** Same as voltage ranges except mA. **Input Impedance:** DC to 11 megs; AC to 1 meg. **Frequency Response:** 25 Hz to 2 MHz. **Ohms:** 0.2 ohm to 1000 megs in 7 ranges. **Meter Movement:** 6½", 200 μA. **Power Required:** 105–132 VAC or three 9 V batteries (NEDA #1604) and one 1.5 V D cell; 1.4 VA. **Size:** 8½" w. x 5" d. x 7½" h. Weight, 6 lbs.
Eico Model 242 Solid State FET TVOM—Wired. Net. **$129.95**
Eico Model 242K Solid State FET TVOM Kit—Net.. **89.95**

MODEL 250 AC VTVM AND AMPLIFIER

Measures AC voltages from 1 mV rms to 300 V rms in 12 ranges. The 0–1, 0–3 voltage scales are linear; decibel scale is based on 0 dB equals 1 mW in 600 ohms, with 10 dB intervals between ranges. VOLTMETER—**Voltage Ranges:** 1, 3, 10, 30, 100, 300 mV and V rms. **Decibel Range:** −80 to +52 dB in 12 ranges. **Frequency Response:** ±0 dB, 10 Hz–600 kHz. **Input Impedance:** 10 megs shunted by 15 pF. **Accuracy:** ±3% of full scale. AMPLIFIER—**Max. Output Voltage:** 5 V rms. **Max. Gain:** 60 dB in 1 mV range. **Frequency Response:** +0, −3 dB, 8 Hz–800 kHz. **Max. Hum and Noise:** −40 dB, inputs above 2 mV. **Input Impedance:** 10 megs, shunted by 15 pF. **Output Impedance:** 5K ohms. **Power Required:** 15 W, 105–125 VAC, 60 Hz. **Size:** 5¾" w. x 7" d. x 8½" h. Weight, 10 lbs.
Model 250 AC VTVM and Amplifier—Wired. Net Ea..**$150.00**

MODEL UP UNI-PROBE® AND KIT

Performs all functions: Half-turn of probe tip selects DC or AC ohms. Adapts to Eico Model 221 VTVM and other VTVM's in just 15 minutes. Complete instructions supplied.
Model UP—Wired. Net Each.....**$8.95**
Model UPK Kit—Net Each..... **6.95**

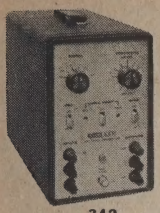
RF VTVM PROBES AND KITS

For RF voltage measurements up to 250 MHz, ±10% accurate.
Model PRF-11—For 11 meg VTVM, wired. Net Each...**$7.95**
Model PRF-11K Kit—For 11 meg VTVM. Net Each.... **5.95**

HIGH VOLTAGE PROBE

For safe measurement up to 30,000 VDC with any VTVM or 20,000 ohms/volt VOM. Includes choice of high quality multiplier resistor to match most popular instruments.
Model HVP-2 High Voltage Probe—Wired. Net Each..**$10.95**

EICO LABORATORY PRECISION INSTRUMENTS & KITS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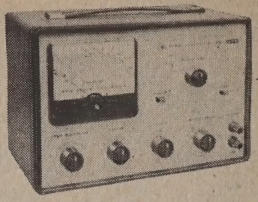
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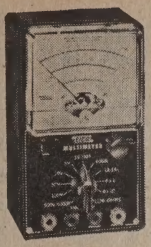
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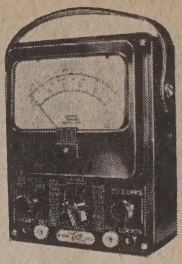
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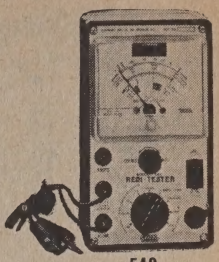

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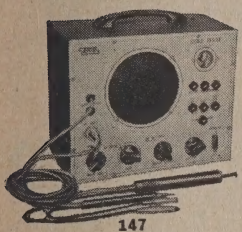
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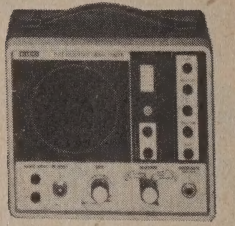
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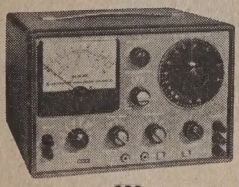
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HVP-5

MODEL 342 FM MULTIPLEX SIGNAL GENERATOR

Measures and adjusts channel separation, balance, input level for stereo. Controlled composite audio and FM RF output. Nineteen kHz pilot signal switches on and off independently; oscilloscope sync output with 19 kHz internal sync or 1 kHz external oscillator sync; dual inputs and amplifiers for stereo. **Pilot Frequency:** ±2 Hz, 19 kHz crystal controlled. **Separation:** 40 dB min., 200 Hz to 10 kHz; 30 dB min., 50 Hz to 15 kHz. **Composite Signal Output:** 0–8 V p-p continuously variable, output impedance 1.5 ohms. **FM Multiplex RF Output:** 200 mV; output impedance, 50 ohms. **Signal Selection:** L+R (sum) L−R (difference). L only, R only, 19 kHz pilot only, stereo source. **Power Requirements:** 117 VAC, 50/60 Hz. **Size:** 5¾″ w. x 12½″ d. x 8½″ h. Weight, 10 lbs.
Model 342 FM Multiplex Signal Generator—Wired. Net Each.....**$250.00**

MODEL 378 AUDIO GENERATOR

Nearly distortionless. Signal source for bridge measuring circuits; modulation of RF signal generators. Switch-selected, internal 600-ohm load for outputs below 1 V rms; may be disconnected. Metered output controlled by 8-position decade and fine attenuators. **Frequency Output:** Switch selectable. One Hz steps, 1–110 Hz; 10 Hz steps, 10–1100 Hz; 100 Hz steps, 100 Hz–1.1 kHz; 1000 Hz steps, 1000 Hz–110 kHz. **Frequency Accuracy:** ±5%. **Distortion:** Less than 0.1%, 20–20,000 Hz. **Output Voltage:** 0–3, 10 V into hi-Z (10K min.); 0–.003, .01, .03, .1, .3, .1V into external or internal 600-ohm load. **Meter Accuracy:** ±5% FS. **Power Required:** 40 watts, 120 VAC, 50/60 Hz. **Size:** 12½″ w. x 9″ d. x 8½″ h. Weight, 16 lbs.
Model 378 Audio Generator—Wired. Net Each.....**$129.95**
Model 378K Audio Generator Kit—Net Each..... **89.95**

MODEL 536 VOM

1,000 ohms/volt; 31 full-scale ranges. **AC/DC Volts:** 0–1, 5, 10, 50, 100, 500, 5,000. **AC/DC Current:** 0–1, 10 mA; 0.1, 1.0 amp. **Ohms:** 0–5,000, 100K, 1 meg. **dB:** Six ranges, −20 to +69. Meter 3″ 400 μA. High impact Bakelite case. **Size:** 3¾″ w. x 2¾″ d. x 6½″ h. Weight, 3 lbs.
Model 536 VOM—Wired, ready to use. Net Each.....**$34.95**
Model 536K VOM Kit—Net Each..... **24.95**

MODEL 565 VOM

20,000 ohms/volt; 31 full-scale ranges. **DC/AC Volts:** 0–2.5, 10, 50, 250, 1,000, 5,000. **DC Current:** 0–100 μA; 10, 100, 500 mA; 10 amps. **Ohms:** 0–2,000; 200K; 20 meg. **dB:** Five ranges, −12 to +55. Large 4½″, 50 μA meter. Bakelite* case. **Size:** 5¼″ w. x 3″ d. x 6¾″ h. Weight, 4 lbs.
Model 565 VOM—Wired. Net Each.....**$49.95**
Model 565K VOM Kit—Net Each..... **34.95**
Model 555 VOM—1% resistors. Wired. Net Each..... **54.95**
Model 555K VOM Kit—1% resistors. Net Each..... **39.95**
*Registered Bakelite Corp. trademark.

MODEL 566 VOM

1,000 ohms/volt; 38 full-scale ranges. AC/DC volts, AC/DC current, dB and ohm ranges same as Model 536 but with 7 additional output voltage ranges: 0–1, 5, 10, 50, 100, 500 and 5,000. Meter 4½″ 400 μA. Bakelite case. **Size:** 5¼″ w. x 3″ d. x 6¾″ h. Weight, 3 lbs.
Eico Model 240 Solid State FET TVM—Wired. Net Ea...**$99.95**
Eico Model 240K Solid State FET TVM Kit—Net Ea.... **79.95**
Model 556 VOM—1% resistors. Wired. Net Each..... **39.95**
Model 556K VOM Kit—1% resistors. Net Each..... **29.95**

MODEL 540 READI-TESTER

AC/DC voltmeter, ammeter, ohmmeter, wattmeter and leakage tester. Rotary switch selector; one-place visual indicator. Instruction book covers basic electricity as well as operation; also procedures and diagrams for common repairs. **AC/DC Voltage Range:** 0–300 V. **AC/DC Current Range:** 0–15 A. **Size:** 3⅜″ w. x 3½″ d. x 6½″ h. Weight, 3 lbs.
Model 540 Readi-Tester—Wired; with leads. Net Each..**$29.95**
Model 540K Readi-Tester Kit—Net Each..... **21.95**

MODEL 585 BATTERY TESTER

Rotary switch on front panel automatically selects series resistor and shunt resistive load for checking popular battery types (1.5, 4.5, 6, 9, 12, 22.5, 45, and 67.5 volts) under typical load conditions. Spare position on switch allows testing of up to 250 V, 500 mA batteries by selecting a maximum of two resistors connected to terminals on front panel; required resistors are calculated using formulas supplied in instruction manual. With test leads. **Meter:** 15 mA, 90 V, Bad-Weak-Good scale. **Size:** 3¾″ w. x 2″ d. x 6¼″ h.
Model 585 Battery Tester—Wired. Net Each.....**$15.95**
Model 585K Battery Tester Kit—Net Each..... **12.95**

MODEL 147 DELUXE MULTI-SIGNAL TRACER

For RF and audio signal tracing and trouble-shooting on AM/FM/TV sets. Separate high gain RF and low gain audio input channels. Magic-eye monitor plus speaker for easier estimation of signal strength and gain per stage. High RF sensitivity permits signal tracing to receiver input. Shielded RF crystal demod and direct probes provided. Noise locator circuit applies DC test voltage to component, amplifying effect. Calibrated wattmeter. **Power Required:** 40 watts, 105–125 VAC, 50/60 Hz. **Size:** 10″ w. x 4¾″ d. x 8″ h. Weight, 10 lbs.
Model 147 Multi-Signal Tracer—Wired. Net Each....**$79.95**
Model 147K Multi-Signal Tracer Kit—Net Each..... **59.95**

MODEL 150 SOLID STATE SIGNAL TRACER

For convenient and rapid servicing of both solid state and vacuum tube equipment. Indispensable in troubleshooting AM, FM and TV receivers as well as hi-fi and PA equipment. Two shielded probes are provided: High frequency RF point contact crystal demodulator and direct audio. An output transformer is provided to permit the checking of a suspected defective component by substitution in any type of vacuum tube or transistor amplifier. Speaker, mounted on front panel, may be used as a substitute for a questionable one. Independent RF and audio inputs; speaker and calibrated meter output indicators; 400 mW continuous power output; substitution amplifier, output transformer and speaker. **Output:** 400 mW. **Input for Rated Output:** RF, 1 mV; audio, 63 mV. **Hum:** Better than 60 dB below 400 mV. **Meter:** 200 μA movement. **Power Required:** 105–132 VAC, 50/60 Hz, 5 VA. **Size:** 8½″ w. x 5″ d. x 7½″ h. Weight, 6 lbs.
Eico Model 150 Solid State Signal Tracer—Wired. Net..**$99.95**
Eico Model 150K Solid State Signal Tracer Kit—Net.... **69.95**

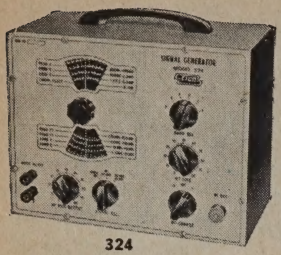
MODEL 902 IM/HARMONIC DISTORTION METER/AC VTVM

Extremely stable and easy to operate. Big 4½″ meter reads as low as 0.3% full scale and as low as 10 mV AC full scale with ±5% accuracy on distortion and ±4% on AC voltage. Precision ±1% resistors in bridge circuits. External high and low frequency panel jacks. Single sensitivity adjustment; no response adjustment required. IM DISTORTION—**Ratios of LF to HF:** 4:1 and 1:1, selected by front panel switch. **Test Signal Output:** 0–5 V, adjusted by 600-ohm L-pad. **Output Impedance:** 600 ohms or desired external value, selected by front panel switch. **Distortion Range:** 0.3, 1, 3, 10, 30%. HARMONIC DISTORTION—**Fundamental Frequency Ranges:** 20–200, 200–2,000, 2000–20,000 Hz. **Distortion Ranges:** 0.3, 1, 3, 10, 30, 100%. **Impedance at Input Terminals** (HD or IM): 500K ohms. **Minimum Input Level for Measurements** (HD or IM): 0.7 V. AC VTVM—**Ranges:** 0.01, 0.03, 0.1, 0.3, 1, 10, 30, 100, 300 volts rms. **dB:** −20 to +2. **Impedance at Input Terminal:** 2 megs shunted by 15 pF. **Frequency Response:** ±0 dB, 10–100,000 Hz; 3 dB down at 300 kHz. **Power Supply:** V-R tube regulated. **Power Required:** 60 W, 115 VAC, 60 Hz. **Size:** 12½″ w. x 10⅛″ d. x 8½″ h. Wt., 22 lbs.
Model 902 IM/Harmonic Distortion Meter and AC VTVM—Wired. Net Each.....**$350.00**

MODEL HVP-5 HIGH VOLTAGE PROBE

Safely measures up to 30,000 VDC. Built-in voltmeter performs checks on potentials of up to 30 kV. Barriers are provided to isolate the high voltage tip from the probe handle and meter.
Eico Model HVP-5 High Voltage Probe—With built-in meter. Wired. Net Each.....**$29.95**

EICO LABORATORY PRECISION INSTRUMENTS & KITS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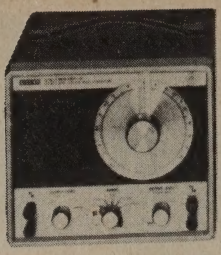
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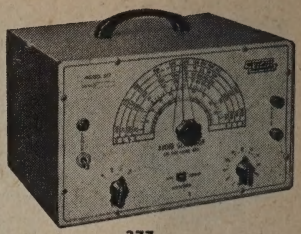
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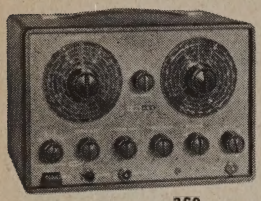
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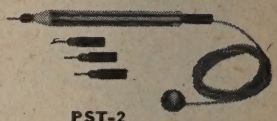
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MODEL 324 RF SIGNAL GENERATOR

For color or black-and-white TV, AM-FM radio, communication gear alignment and signal tracing, or wherever a modulated or unmodulated RF signal of 150 kHz to 435 MHz is required. RF oscillator provides excellent waveform; plate-modulated by cathode follower. Modulation internal or external. Internal AF modulating frequency 400 Hz approx. Six tuning bands cover fundamental frequency range 150 kHz to 145 MHz. Calibration of third harmonic of the highest fundamental provides seventh tuning band from 111 MHz to 435 MHz. Tuning dial calibration accuracy ±1.5%. **RF Output Frequency Range:** 150 kHz to 145 MHz on fundamentals in six bands; 111 MHz to 435 MHz on calibrated harmonics. **RF Attenuation:** Coarse, 2 steps, each approx. 20 dB. Fine, continuous 0 to max. **Power Required:** 8 watts, 117 VAC, 60 Hz. **Size:** 10″ w. x 4¾″ d. x 8″ h. Wt., 8 lbs.
Model 324 RF Signal Generator—Wired. Net Each....**$79.95**
Model 324K RF Signal Generator Kit—Net Each..... **59.95**

MODEL 330 SOLID STATE RF SIGNAL GENERATOR

For aligning all types of television sets, AM and FM radios and communication gear. An excellent source of modulated or unmodulated RF and audio signals, it displays exceptionally good waveforms. Five fundamental bands cover 100 kHz to 54 MHz. Frequencies easily and accurately set with vernier control; calibrated front-panel, modulation-adjustment control; 400 Hz audio output at front panel; provision for modulating RF with internal or external signal source. **RF Fundamental Frequencies:** 100 kHz to 54 MHz in 5 bands. **Output:** More than 300,000 μV on any band into 50-ohm load. **RF Coarse Attenuation:** Three steps. **RF Fine Attenuation:** 0 to 100%. **Internal Modulation:** Approx. 400 Hz from 0 to 100%. **Power Required:** 105–132 VAC, 50/60 Hz, 1.7 VA. **Size:** 8½″ w. x 5″ d. x 7½″ h. Weight, 5 lbs.
Eico Model 330 Solid State RF Signal Generator—Wired. Net Each.....**$119.95**
Eico Model 330K Solid State RF Signal Generator Kit—Net Each.....**$79.95**

MODEL 379 SOLID STATE SINE AND SQUARE WAVE GENERATOR

Designed as an oscillator capable of generating frequencies required to test all audio and supersonic equipment. Low distortion signals make it especially suitable for checking high fidelity amplifiers and transducers. Ideal for sonar testing. Simultaneous sine and square wave outputs; covers 20 Hz to 2 MHz in 5 bands; low distortion Sulzer feedback circuit using FET; square wave rise time better than 0.1 μsec. **Frequency Range:** Sine wave, 20 Hz to 2 MHz; square wave, 20 Hz to 200 kHz. **Output Voltage:** Sine wave, 0–7.5 V rms into high impedance output; 0–6.5 V into 600 ohms. Square wave, peak to peak, 10 V into high impedance; positive direction with zero ground. **Calibration Accuracy:** −3% except: 5%, 20–100 Hz and 1–2 MHz. **Maximum Distortion Across Audio Range:** 0.25%. **Rise Time:** At 20 kHz, less than 0.1 μsec. **Power Required:** 10 VA, 105–132 VAC, 50/60 Hz. **Size:** 8½″ w. x 8½″ d. x 7½″ h. Weight, 9 lbs.
Eico Model 379 Solid State Sine and Square Wave Generator—Wired. Net Each.....**$129.95**
Eico Model 379K Solid State Sine and Square Wave Generator Kit—Net Each.....**$89.95**

MODEL 377 SINE AND SQUARE WAVE AUDIO GENERATOR

Choke filtering minimizes hum level and high power output loads. Excellent calibration accuracy, stability and purity of waveform. **Frequency Range:** Sine Wave, 20–200,000 Hz in 4 bands; square wave, 60–30,000 Hz (5% tilt at 60 Hz, 5% rounding at 30 kHz). **Calibration Accuracy:** ±3% or 1 Hz whichever is greater. **Frequency Response:** ±1.5% dB, 60–15,000 Hz. **Distortion:** Less than 1%. **Hum:** Less than 0.4% of rated output. **Output Voltage:** 10 V across 1000 ohms rated load (100 mW); drops to 8 V across 500 ohms; rises to 14 V across 10K ohms or higher. **Power Required:** 50 watts, 117 VAC, 60 Hz. **Size:** 11⅛″ w. x 7⅝″ d. x 7⅛″ h. Weight, 13 lbs.
Model 377 Audio Generator—Wired. Net Each.....**$89.95**
Model 377K Audio Generator Kit—Net Each..... **69.95**

MODEL 369 TV-FM SWEEP AND MARKER GENERATOR

Electronic inductor sweep generator with variable and fixed (crystal) marker generators. Markers are post-injected so that circuit response is unaffected by markers and vice versa. AGC three-stage circuit keeps signal constant over entire frequency range through 20 MHz. Rear phasing control permanently adjusts horizontal sweep signal. With 6:1 vernier dials and 350° scales frequency tuning. **Sweep Generator Range:** Fundamental 3–7.5, 6–16, 16–42, 36–95 and 75–220 MHz. **Marker Generator Range:** Four ranges 2–225 MHz; harmonic, 60–225 MHz. **Fixed Frequency Marker Oscillator:** 4.5 MHz, crystal supplied. **Cables:** RF output (50 ohm termination); demodulated signal (with low-pass filter); 'scope (dual shielded, carrying both vertical and horizontal 'scope input leads). **Power Required:** 50 watts, 117 VAC. **Size:** 12½″ w. x 7″ d. x 8½″ h. Weight, 17 lbs.
Model 369 Sweep-Marker Generator—Wired. Net Ea..**$219.95**
Model 369K Sweep-Marker Generator Kit—Net Ea.. **159.95**

MODEL 380A NTSC COLOR BAR GENERATOR

Solid state model provides standard, fully saturated NTSC color signals including chrominance and luminance signals. Color burst is precisely gated and delayed; phase angles are taps on linearily-distributed delay line. Swing-out circuit boards for compactness and accessibility. Video and RF outputs have separate gain controls. **RF Output:** 0–50,000 μV into 300 ohms (62.25 MHz for crystal-controlled Ch. 3). **Video Output:** Both + and − polarities 0–10 V p-p into 4700 ohms. **Horizontal Lines:** 13, variable thickness. **Vertical Lines:** 10, variable thickness. **Crosshatch:** 13 horiz. and 10 vert. lines. **Dots:** 130 variable size. **NTSC Colors:** Yellow, I, Red, R-Y, Magenta, Q, B-Y, Blue, Cyan, Green and White. **Power Required:** 117 VAC, 60 Hz. **Size:** 5¼″ w. x 6⅜″ d. x 8½″ h. Weight, 8 lbs.
Model 380A Color Bar Generator—Wired. Net Each..**$250.00**

MODEL 385 SOLID STATE COLOR BAR GENERATOR

Portable crystal-controlled color bar generator and color-coded gun killers in one package. Standard offset carrier-type 10 bar color display, well-defined dot pattern, crosshatch and individual series of horizontal and vertical lines. Socket adapter assembly supplied. Gun killers eliminate one, or any combination of two or more colors from display. Connects directly to TV antenna terminals. **Power:** 6 "C" cell; low current drain for long life. Plug-in adapter for 120 VAC available. **Size:** 8½″ w. x 8⅜″ d. x 2½″ h. Weight, 7 lbs.
Model 385 Color Bar Generator—Wired. Net Each..**$129.95**
Model 385K Color Bar Generator Kit—Net Each.... **89.95**

MODEL PSI-1 SOLID STATE SIGNAL INJECTOR PROBE

Pen-size, self-powered, self-contained signal generator covers 1000 Hz with harmonics to 30 MHz. For on-the-spot signal tracing in the field; trouble shoot audio, IF-RF circuitry in any electronic equipment, transistorized or vacuum tube. **Frequency:** 1 kHz–30 MHz. **Output Voltage:** 50 V p-p, open circuit. **Output Impendance:** 10K ohm capacitive. **Input DC Voltage:** 600 V max., from output tip to case ground. **Power Requirements:** Two 1.5 V batteries. **Size:** 5⅝″ lg. x ½″ O.D. Weight, 1 oz.
Model PSI-1 Signal Injector Probe—Wired. Net Each....**$9.95**
Model PSI-1K Signal Injector Probe—Net Each..... **5.95**

MODEL PST-2 SIGNAL TRACER PROBE

Versatile, portable, small, lightweight, high-gain amplifier with a usable low and mid-frequency bandwidth of from 50 Hz to 200 kHz. With the use of demodulator probe tip (supplied), range can be extended to 200 MHz. Overload is avoided by use of two attenuator probe tips: one to reduce gain 20 dB; the other, as a 40 dB attenuator. Sensitive plug earphone at amplifier output is for determining signal and distortion levels. **Gain:** Approx. 3,000 at 1 kHz. **Useable Bandwidth:** 50 Hz to 200 kHz; to 200 MHz with demodulator tip supplied. **Input Impedance:** 3500 ohms; 35K with 20 dB attenuator probe tip supplied; 350K with 40 dB attenuator probe tip supplied. **Output:** 0.3 V peak to peak. **Noise Level:** −45 dB. **Distortion:** Better than 5%. **Power Required:** One AA battery. **Size:** 6⅜″ long by ⅝″ dia. Wt., 2.2 oz.
Eico Model PST-2 Signal Tracer Probe—With two probe tips, demodulator tip and pouch. Wired. Net Each.....**$29.95**
Eico Model PST-2K Signal Tracer Probe Kit—With two probe tips, demodulator tip, pouch. Net Each.....**$19.95**

EICO LABORATORY PRECISION INSTRUMENTS & KITS

OSCILLOSCOPES, PROBES, MULTI-TESTERS

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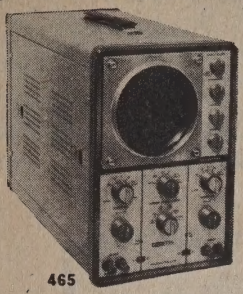
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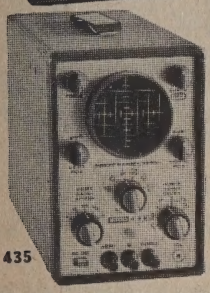
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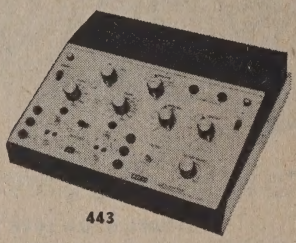
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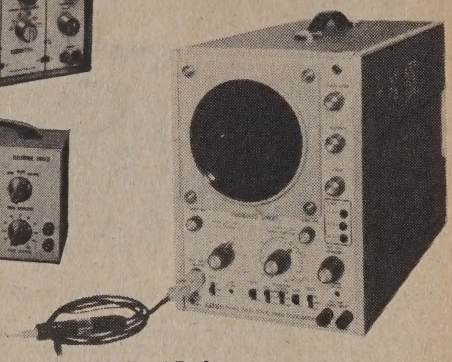
NEW MODEL TR-410 TRIGGERED SWEEP OSCILLOSCOPE


Includes PLD-Dual Probe

MODEL 427 HIGH SENSITIVITY DC 5" OSCILLOSCOPE

Zener diode calibration; automatic sync. Direct-coupled vertical amplifier of three push-pull pairs is flat from DC to 500 kHz (−6 dB at 1 MHz) with 10 mV p-p/cm or 3.5 mV rms/cm sensitivity. Includes four-position frequency-compensated decade attenuator. Permits centering of any part of trace, expanded 30 cm vertically or 20 cm horizontally. Slide switch selection of direct plate connections. Sawtooth output. Horizontal amplifier flat, 2 Hz to 450 kHz (+1, −3 dB); sensitivity, 0.18 V rms/cm. Four overlapping sweep ranges 10 Hz to 100 kHz. Fully automatic sync and full retrace blanking. **Size:** 8½" w. x 16⅞" d. x 12½" h.
Model 427 DC Oscilloscope—Fully wired. Net Each.. **$189.95**
Model 427K DC Oscilloscope Kit—Net Each..... **129.95**

MODEL 460 WIDEBAND DC 5" OSCILLOSCOPE

For color, and monochrome TV, lab and industry. Flat from DC to 4.5 MHz; usable to 10 MHz; DC amplifiers. **Vertical Sensitivity:** 5 mV rms/cm (25 mV p-p/cm). **Sweep Frequency:** 10 Hz to 100 kHz; low sweep with external capacitor. Automatic sync limiter and amplifier. Internally modulated sawtooth output; 60 Hz test signal; external sync; external capacitor jacks; 60 Hz variable phase sine sweep. Pre-set TV vertical and horizontal sweep positions. Four frequency-compensated attenuator positions, up to 1,000:1 on either direct or capacitive-coupled input. **Power:** 95 watts, 117 VAC. **Size:** 8½" w. x 16" d. x 13" h. Weight, 25 lbs.
Model 460 DC 5" Oscilloscope—Wired. Net Each.... **$189.95**
Model 460K DC 5" Oscilloscope Kit—Net Each..... **139.95**

MODEL 465 5" OSCILLOSCOPE/VECTORSCOPE

For color and black and white TV servicing. Push-pull amplification throughout. Zener diode voltage calibration source. Trace sharp and bright, accelerating potential 1400 V. Distortionless V and H trace expansion, drift-free positioning to many times screen diameter. Automatic sync limiter and amplifier. Also functions as complete precision vectorscope, with accurately calibrated graticule and necessary interconnecting cables. **Vertical Amplifier:** Frequency response, DC to 8 MHz (+1, −5 dB) usable to 10 MHz; sensitivity, 12 mV rms/cm; input impedance, 1 megohm shunted by 35 pF. **Horizontal Amplifier:** Frequency response from DC to 1 MHz (+1, −3 dB); sensitivity, 17 mV rms/cm. **Sweep Ranges:** 10–100 Hz, 100–1000 Hz, 1–10 kHz and 10–100 kHz, TV vert. position (30 Hz) and TV hor. position (7875 Hz). Synchronization may be (+) or (−) internal, external or line frequency. Intensity modulation input 3 V rms blanking; input impedance 2.2 megs. **Vectorscope:** Negligible horizontal and vertical phase shift. **Power:** 140 watts, 117 VAC. **Size:** 8½" w. x 17½" d. x 12¼" h. Weight, 27 lbs.
Model 465 Oscilloscope/Vectorscope—Wired. Net Ea.. **$299.95**
Model 465K Oscilloscope/Vectorscope Kit—Net Ea... **219.95**

MODEL 435 WIDEBAND DC 3" OSCILLOSCOPE

Compact, portable DC 'scope equal in performance to larger, heavier types. Permanently accurate, zener diode calibration (200 mV peak-to-peak). Direct-coupled vertical amplifier is three-stage push-pull type; response, DC to 4.5 MHz; sensitivity, 18 mV rms/cm. Full retrace blanking. Flat-faced 3" CRT with mu-metal shield; distortionless vert. and hor. positioning and trace expansion; adjustable, edge-lighted, grid screen. Horizontal amplifier response, 1 Hz to 500 kHz; sensitivity, 0.7 V rms/cm. Four overlapping sweep ranges, 10 Hz to 100 kHz plus TV-vert. position (30 Hz) and TV-hor. (7,875 Hz). **Power:** 110 watts, 117 VAC. **Size:** 5¾" w. x 12⅝" d. x 8½" h. Weight, 18 lbs.
Model 435 DC Oscilloscope—Wired. Net Each..... **$219.95**
Model 435K DC Oscilloscope Kit—Net Each..... **159.95**

NEW MODEL TR-410 TRIGGERED SWEEP OSCILLOSCOPE

Lab quality, high performance, wideband triggered sweep 10 MHz oscilloscope for TV service field, production testing and lab use in schools. Sweep is automatically synchronized or "locked-in" with complex TV signals. All solid state circuit includes a fully protected FET input stage. Features three calibration voltages (2, 5 and 10); front panel control; flat faced CRT; rear panel astigmatism control; standard bezel and bushings for camera mounting. **Vertical Amplifier:** Sensitivity, .01V/cm to 20V/cm in 11 steps; DC to 10 MHz on DC (2 Hz to 10MHz on AC); input impedance, 1 megohm shunted by 35 pF. Includes a unique dual probe which enables you to convert quickly from direct to 10:1 low capacity operation. **Horizontal Amplifier:** Sensitivity, 250 mV/cm; frequency response, DC to 1 MHz (−3 dB) at maximum sensitivity; input impedance, 100,000 ohms shunted by 40 pF. **Sweep Modes:** Triggered and free running sweeps. **Calibrated Sweep Rates:** 0.5 usec/cm to 0.5 sec/cm in 19 steps. **Magnification:** Sweep rates magnified 5 times. **Sync Range:** 20 Hz to 10 MHz with 10 mm deflection. **Power Required:** 100/120/230 VAC, 50/60 Hz, 20 VA. **Size:** 8" w. x 18" d. x 11" h. Weight, 17 lbs.
Model TR-410 Solid State Oscilloscope—Wired. Net.. **$439.95**

MODEL 443 SEMICONDUCTOR CURVE TRACER

Tests diodes, rectifiers, signal and power transistors. Use with any general purpose oscilloscope to display DC characteristics of semiconductor devices. Silicon solid state printed circuit construction; high-voltage flashing indicator, matching switch for comparing transistors; direct-reading beta controls; switch for selecting diode tests; oscilloscope calibrator voltage switch. **Diode/Rectifier Tests:** PIV, 1–10–50–100–200 V/division. Variable, 0–1400 volts max. I_R, 1–10–100 μA/division. I_F, 10–100 mA/division (1 amp max.). **Transistor Tests:** Beta (h_{FE}) displays family of 3 curves. NPN-PNP: Signal, h_{FE} at V_{CE}=10 V, I_C=12 mA. Power, h_{FE} at V_{CE}=10 V, I_C=1 amp. **Power Required:** 6 watts, 177 VAC. With 3-wire grounded line cord, UL Recognized. **Size:** 11½" w. x 9½" d. x 3" h. Weight, 10 lbs.
Model 443 Semiconductor Curve Tracer—Wired. Net.. **$159.95**
Model 443K Semiconductor Curve Tracer Kit—Net... **99.95**

MODEL 488 ELECTRONIC SWITCH

Allows you to observe two patterns on one 'scope simultaneously: Compare voltage and current amplitudes, waveforms, frequencies and phase relationships. Continuously variable switching rates from less than 10 Hz to over 2 kHz. Useful as square wave generator. **Power:** 117 VAC. **Size:** 8" w. x 6" h. x 6" d. Weight, 7 lbs.
Model 488 Electronic Switch—Wired. Net Each..... **$69.95**
Model 488K Electronic Switch Kit—Net Each..... **49.95**

MODEL PSD OSCILLOSCOPE DEMODULATOR PROBE

For signal tracing and checking of TV and radio RF and IF stages. Demodulates amplitude-modulated carriers between 150 kHz and 250 MHz.
Model PSD Probe—Wired, ready to use. Net Each..... **$7.95**
Model PSDK Probe Kit—Net Each..... **5.95**

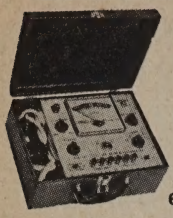
MODEL PD OSCILLOSCOPE DIRECT PROBE

For TV waveform tracing in low impedance or low frequency circuits. Eliminates stray pickup and signal re-radiation.
Model PD Probe—Wired. Net Each..... **$5.95**
Model PDK Probe Kit—Net Each..... **4.95**

MODEL PLC OSCILLOSCOPE LOW CAPACITY PROBE

For TV sync signal tracing and general testing in video sync and sweep circuits.
Model PLC Probe—Wired, ready to use. Net Each..... **$7.95**
Model PLCK Probe Kit—Net Each..... **5.95**

EICO LABORATORY PRECISION INSTRUMENTS & KITS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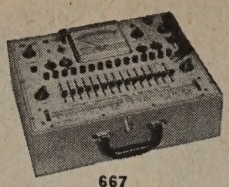
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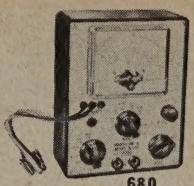
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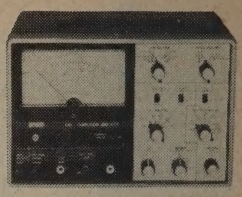
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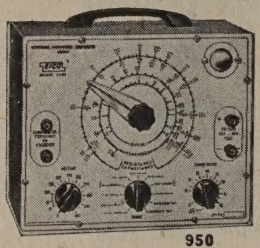
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MODEL 633 CRT TESTER AND REJUVENATOR

Solid state CRT tester and rejuvenator for color or black-and-white. Each gun of color tube measured individually and numerically, provides required gray scale tracking information. Tests and rejuvenating functions accomplished by use of 7 rotary controls and 7 pushbutton switches on panel; 6 CRT sockets for any known tube. Continuity and leakage checked through transistorized VOM and read directly on 4½" d'Arsonval meter (200 μA, ±2%). **Voltage Ratings:** Filament, 1–10 V, 12 V; grid 1, variable 0 to −150 V; grid 2, variable 0 to +450 V; life test, fil. V −10%; boost, fil. V +35%; weld, fil. V +85%; high, 350 V. **Power:** 120 VAC, 50/60 Hz. **Size:** 12⅝" w. x 9¼" d. x 5¾" h. Weight, 9 lbs.
Model 633 CRT Tester and Rejuvenator—Wired. Net. **$159.95**
Model 633K CRT Tester and Rejuvenator Kit—Net.. **119.95**

MODEL 635 PORTABLE TUBE TESTER

Tests all tubes for dynamic cathode emission, shorts, grid leakage and gas. Also tests novars, nuvistors, compactrons, 10 pin types, auto radio, hi-fi, TV picture tubes, foreign, most industrial tubes. Employs 3½" d'Arsonval type meter with bridge circuit for accuracy. Short and grid leak indicator. Includes pin straighteners; transformer isolation power supply; tube manual and luggage case. **Size:** 12½" w. x 9" d. x 4" h.
Model 635 Portable Tube Tester—Wired. Net Each... **$99.95**
Model 635K Portable Tube Tester Kit—Net Each..... **69.95**

MODEL 667 TUBE AND TRANSISTOR TESTER

Dynamic conductance tester combines mutual conductance and peak emission tests in single reading. Also tests transistors for gain and leakage. Tests almost any receiving tube, plus nuvistors, novars, compactrons, special purpose tubes. Special pilot light tests. All tests under actual operating conditions. Lever switch sets voltages, 13 pushbuttons for testing. Twenty filament voltages. Tests color or black and white CRT's with Model CRU adapter. Line adjust control; 400 μA, 4½" meter. For 105–135 VAC.
Model 667 Tube and Transistor Tester—Wired. Net.. **$189.95**
Model 667K Tube and Transistor Tester Kit—Net.. **129.95**

MODEL 680 TRANSISTOR AND CIRCUIT TESTER

Checks germanium, silicon and selenium diodes and rectifiers. **Transistor Measurements:** I_{CBO} and I_{CEO} with separate ranges for signal and power types: DC beta in two ranges, 2–30 and 20–300; AC beta indirectly on separate scale, using incremental differences in collector and base currents of DC beta to find AC beta. **DC Current Ranges:** 50 μA, 500 μA, 5 mA, 50 mA, 500 mA. **DC Voltage:** 5 and 50 volts. **Resistance Range:** x 1 (0–2K, 12 ohms center), x 100 (0–200K; 12,000 ohms center), and x 10K (0–20 megs; 120K ohms center). **Size:** 5¼" w. x 3" d. x 6¾" h.
Model 680 Transistor and Circuit Tester—Wired and tested. Net Each..... **$74.95**
Model 680K Transistor and Circuit Tester Kit—Net Ea. **59.95**

MODEL 685 TRANSISTOR ANALYZER

Specially designed for bipolar and field effect transistor testing, in or out of circuit. Unique compressed scale ohmmeter and voltmeter allow low values of resistance and voltage to be read over a bigger length of the meter scale than higher values. Can also be used to determine condition of unijunction transistors, SCR's, signal diodes and rectifiers, measure SCR turn-on voltage (and current using external resistor and meter), and measure zener diode breakdown voltage at specific reverse diode currents. **Bipolar Transistor Tests:** AC beta (2–100 at I_C=0.2 mA for RF devices, 2–100 and 2–1,000 at I_C=2 mA for small signal devices and at I_C=20 mA for power devices): I_{CBO}=0–5 mA (30 μA center scale); I_{CEO}=0–5 mA (30 μA center scale). **FET Tests:** AC transconductance 0–5000 and 0–50,000 micromhos at V_{DS}=5 V and V_{GS}=0; I, 0–50 mA linear scale; V_P=0–20 V at V_{DS}=5 V and V_{GS}=0. **Voltmeter:** 0–500 V (30 V center scale), 1 megohm resistance. **Ohmmeter:** 400–10,000 ohms (140 kilohm center scale). **Meter Movement:** 50 μA, 2% taut band. **Power Required:** 10 watts, 120 VAC, 50/60 Hz. **Size:** 8½" w. x 6" d. x 12½" h.
Model 685 Transistor Analyzer—Wired. Net Each... **$169.95**
Model 685K Transistor Analyzer Kit—Net Each.... **119.95**

MODEL CRU PICTURE TUBE TEST ADAPTER

For testing all color and black-and-white tubes with Model 667 and 628 testers. Factory wired. Net Each..... **$14.95**

MODEL 610A TUBE TESTER ADAPTER

Adapts Models 625 and 666 tube testers for testing 5- and 7-pin nuvistors, 10-pin min., 12-pin compactrons, 2-pin rectifiers, novars. Adapter cable plugs into 9-pin socket; tenth connection is provided by cap terminal on adapter for connecting grid cap lead from tube tester. Also included are roll chart supplements. Gray wrinkle finish case; brushed aluminum panel. **Size:** 2½" w. x 1¼" d. x 6" h.
Model 610A Tube Tester Adapter—Wired. Net Each.. **$18.95**

MODEL 615 TUBE TEST ADAPTER

Adapts Models 628 or 667 testers for 4, 5, 6 or 7 pin tubes.
Model 615 Test Adapter—Wired. Net Each..... **$19.95**

MODEL 944 FLYBACK TRANSFORMER AND YOKE TESTER

Positive check of all flybacks and yokes, in or out of set. Uses sensitive grid-dip principle to show up even one shorted strand. Separate calibration for air- and iron-core flybacks. Large, easy-to-read 4½" meter with three colored scales. With one 6K6 tube. **Power:** 105–125 VAC, 60 Hz. **Size:** 5" w. x 4" d. x 7" h. Wt., 5 lbs.
Model 944 Flyback and Yoke Tester—Wired. Net Ea... **$69.95**
Model 944K Flyback and Yoke Tester Kit—Net Each.. **49.95**

MODEL 950 RC BRIDGE AND R-C-L COMPARATOR

Bridge-type instrument reading directly: **Resistance,** 0.5 ohm to 500 megs, 4 ranges; **Capacitance,** 10 pF to 5,000 μF, 4 ranges; power factor. (Kit includes precision calibrating resistor.) Unique comparator range for R, C and L comparison measurement against external standard. Leakage testing of all capacitors at rated WVDC with internal 0–500 VDC source. Electron ray tube as both bridge balance and capacitor leakage indicator. **Power:** 117 V, 60 Hz. **Size:** 10" w. x 4¾" d. x 8" h. Weight, 8 lbs.
Model 950 Bridge-Comparator—Wired. Net Each..... **$69.95**
Model 950K Bridge-Comparator Kit—Net Each..... **49.95**

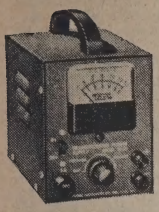
MODEL 955 IN-CIRCUIT BRIDGE-TYPE CAPACITOR TESTER

Provides short and open tests; includes Wien bridge for capacitance tests, with shunt resistance balancing provision that permits in-circuit measurements even when shunting resistance is low. One coax lead for all tests; detachable, with mike connector coupling to unit. **Shorts:** In or out of circuit, shunt resis. as low as 1 ohm; reliable up to 2,000 μF; max. test, 6.3 VAC (open leads), decreasing with decreasing impedance. **Open:** In or out of circuit; tests capacitors as small as 15 pF. In-circuit, shunt may be as low as 35 ohms above 250 pF, 7K ohms at 15 pF. **Capacitance:** 0.1–50 μF using Wien bridge with shunt balancing permitting ±10% accuracy, in or out of circuit. **Power Required:** 8 watts, 117 VAC, 60 Hz. **Indicator Tube:** EM84/6BG6. **Size:** 5¾" w. x 6" d. x 8½" h. Weight, 6 lbs.
Model 955 Capacitor Tester—Wired. Net Each..... **$69.95**
Model 955K Capacitor Tester Kit—Net Each..... **49.95**

MODEL 965 FARADOHM BRIDGE/ANALYZER

Measures all capacitors and resistors, diode reverse and transistor quiescent current VTVM zeroing; 6 range overload protection. **Capacitance Ranges:** 5–10,000 pF, 500 pF–1 μF, .05 μF–100 μF, 50–5000 μF. **Power Factor:** 0–80% at 60 Hz. **Resistance:** 0.5–1000, 50–100,000 ohms, 5000 ohms–10 megohms, 5–500 megohms directly and up to 200,000 megohms using metered variable DC supply. **DC Voltages:** 1.5, 5, 15, 50, 150, 500 volts full scale into 10-megohm input. **DC Current:** 0.15, 0.5, 1.5, 5, 15, 50 μA; 0.15, 0.5 1.5, 5, 15 mA (75 mV drop across terminals). **Accuracy:** ±5% except on power factor below 30%. **RCL Comparator:** .025–50 (ratio). **Variable DC:** 0.4–1.5, 1.4–5, 4–15, 14–50, 40–150, 140–500 volts at 10 mA max. **Power Required:** 32–45 watts, 115 VAC, 60 Hz. **Size:** 12½" w. x 9" d. x 8½" h. Weight, 18 lbs.
Model 965 Faradohm Bridge/Analyzer—Wired. Net.. **$200.00**

EICO LABORATORY PRECISION INSTRUMENTS & KITS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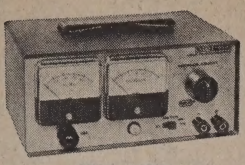
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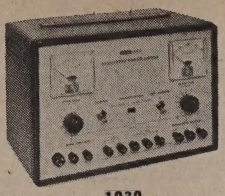
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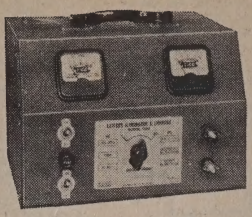
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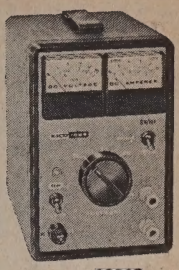
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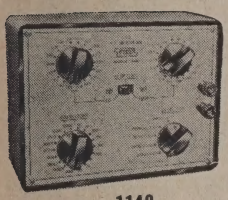
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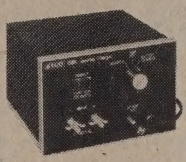
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MODEL 1020 SOLID STATE POWER AND BIAS SUPPLY

A completely transistorized, low-ripple, continuously variable DC power and bias supply. Two 2N256 power transistors permit output voltages up to 30 V. Maximum load current, 300 mA. Max. ripple (120 Hz) full load, 0.005%. **Size:** 4″ w. x 5½″ d. x 5″ h.
Model 1020 Power and Bias Supply—Wired. Net Each..**$54.95**
Model 1020K Power and Bias Supply Kit—Net Each... **39.95**

MODEL 1025 SOLID STATE POWER SUPPLY

Transistorized supply can handle 300 mA. Output voltages to 30 VDC. Meter monitored output utilizing two d'Arsonval meters for voltage and current. **Capacity:** 150 mA from 0–12 V, 200 mA, 12–24 V, 300 mA, 24–30 V, continuous. **Ripple:** .005% at full load. **Power Requirements:** 117 V, 60 Hz. Size: 8″ w. x 4¾″ d. x 3¾″ h. Weight, 5 lbs.
Model 1025 Solid State Power Supply—Wired. Net Ea..**$79.95**
Model 1025K Solid State Power Supply Kit—Net Ea.... **54.95**

MODEL 1030 REGULATED POWER SUPPLY

Two independent sources: Bias, with 0–150 V at 2 mA; output, with 0–400 V at 150 mA. Line change of ±10 V causes less than .5 V output change. Has unregulated filament voltages of 6.3 V (12.6 total) at 3 A. DC milliammeter and voltmeter on front panel; separate test circuit/filament power switches. **Ripple:** 3 mV rms.
Model 1030 Regulated Power Supply—Net Each....**$139.95**
Model 1030K Regulated Power Supply Kit—Net Ea.. **104.95**

MODEL 1032 SOLID STATE REGULATED POWER SUPPLY

For the service shop or engineering laboratory. Voltage and current monitored by meters: Milliammeter is protected against damage by fuse on front panel and semiconductor; voltmeter cannot be damaged except by extreme abuse. **Output Voltage:** 0–30 V; 0.2 V change from 0 to maximum load and 105–135 V line. **Output Current:** 0–500 mA, depending on voltage and load. **Ripple:** Less than 2.5 mV peak-to-peak for any load within the range. **Polarity:** Positive with respect to ground. **Voltmeter:** 0–10 VDC, 0–50 VDC, moving coil, 5%. **DC Milliammeter:** 0–500 mA, moving coil, 5%. **Duty:** Continuous from 0° to 55° C. **Cooling:** Natural convection. **Power Required:** 30 watts, 105–135 VAC, 50/60 Hz.
Model 1032 Regulated Power Supply—Net Each.....**$79.95**
Model 1032K Regulated Power Supply Kit—Net Ea... **59.95**

MODEL 1060S BATTERY ELIMINATOR AND CHARGER

Extra-filtered DC power (0.3% AC ripple) for servicing transisrtoized equipment. **Two Ranges:** 0–8 V, 10 A cont., 20 A inter.; 0–16 V 6. A cont., 10 A inter. Special built-in filter takes full continuous and intermittent current output on both ranges. Variable type transformer; fused primary; automatic reset overload relay opens secondary. Separate voltmeter and dual-range ammeter; automatic ammeter switching. Wide-angle vision, sloping panel, all-steel case; wall mounting feature optional.
Model 1060S Battery Eliminator and Charger—Wired. .**$89.95**
Model 1060SK Battery Eliminator/Charger Kit—Net... **69.95**

MODEL 1064S BATTERY ELIMINATOR AND CHARGER

Heavy duty battery eliminator drives any auto radio, mobile and marine transceiver. Also charges 6- and 12-volt storage batteries. Continuous output voltage adjustment on both ranges; LC filter with heavy duty choke; fused primary and automatic reset overload relay in the secondary; heavy duty silicon rectifiers. **Output Voltages:** 0–8 VDC, 0–16 VDC. **Current Ratings:** 10 amps continuous, 20 amps intermittent at 0–8 V; 6 amps continuous, 10 amps intermittent at 0–16 V. **AC Ripple:** 1.5% at 2 amps, 2% at 6 amps and 4.5% at 10 amps at 0–8 V; 0.3% at 2 amps, 1% at 6 amps and 1.5% at 10 amps at 0–16 V. **Meters:** Voltmeter, 0–20 volts; ammeter, 0–10, 0–20 amps. **Power Requirements:** 150 watts, 117 VAC, 60 Hz. **Size:** 5¾″ w. x 7½″ d. x 8½″ h. Weight, 16 lbs.
Model 1064S Battery Eliminator/Charger—Wired. Net..**$99.95**
Model 1064SK Battery Eliminator/Charger Kit—Net... **79.95**

MODEL 1100 EIA RESISTANCE BOX

For rapid substitution of EIA resistance values, 15 ohms to 10 megs in decade multiples of 15, 22, 33, 47, 68 and 100 ohms. Uses standard 1 watt ±10% EIA resistors. Five-way jack-top binding posts. **Size:** 6½″ w. x 3½″ d. x 3¾″ h. Weight, 2 lbs.
Model 1100 Resistance Substitution Box—Wired. Net..**$22.95**
Model 1100K Resistance Substitution Box Kit—Net Ea. **14.95**

MODEL 1078 METERED VARIABLE AC BENCH SUPPLY

Instrument-styled, fully metered variable AC supply. Features 0–140 VAC adjustable output voltage from 120 VAC input. Separate output ammeter and voltmeter. Auto-transformer and ammeter are protected by separate extractor-post fuses on panel. Two-pole power switch disconnects both sides of unit from power line. **Frequency:** 50/60 Hz. **Input Voltage:** 120 VAC. **Output:** 0–140 VAC (30–140 VAC meter). **Output Current:** Two ranges, 0–2.5 and 0–7.5 amps. **Switching:** Power switch, two-pole type. Range switch selects lower or higher current range for ammeter and may be switched under load. **Meter Accuracy:** ±3% of full scale. **Size:** 5¾″ w. x 7″ d. x 8½″ h. Weight, 16 lbs.
Model 1078 Bench Power Supply—Wired. Net Ea....**$139.95**
Model 1078K Bench Power Supply Kit—Net Each... **109.95**

MODEL 1080 220 WATT INVERTER/CHARGER

Solid 220 watts of power is available when this unit is connected to the storage battery of a car, truck or boat etc. With a flip of the switch, Model 1080 operates as a battery charger using 117 VAC. Permanently installable for use both as inverter and charger. Battery charger is rated 5 amps, automatically tapers current down to prevent overcharging. **Size:** 6″ w. x 5¾″ d. x 4″ h.
Model 1080 Inverter/Charger—Wired. Net Each.....**$69.95**
Model 1080K Inverter/Charger—Kit. Net Each..... **54.95**
Model 1070 110 Watt Inverter—Charge power delivered by 12 VDC storage battery on car or boat into 115 VAC rms. **Size:** 6″ w. x 5¾″ d. x 4″ h. Weight, 6 lbs. Wired. Net Each.....**$49.95**
Model 1070K Inverter—Kit. Net Each..... **39.95**
Model 1075 160 Watt Inverter—Same as Model 1070, but is capable of delivering 160 watts at 115 VAC rms. **Size:** 6″ w. x 5¾″ d. x 4″ h. Weight, 6 lbs. Net Each.....**$54.95**
Model 1075 Inverter—Kit. Net Each..... **44.95**

MODEL 1120 EIA CAPACITANCE BOX

For rapid substitution of EIA capacitance values, 0.0001 to 0.22 μF in operating circuits; ±10% accurate. Uses silver mica and molded plastic capacitors, conservatively rated at 600 V. Five-way jack-top binding posts. **Size:** 3¾″ w. x 3½″ d. x 6½″ h. Weight, 2 lbs.
Model 1120 Capacitance Substitution Box—Wired. Net..**$19.95**
Model 1120K Capacitance Substitution Box Kit—Net.. **13.95**

MODEL 1140 SERIES/PARALLEL RC COMBINATION

A valuable combination of Model 1100 resistance box and Model 1120 capacitance box. Permits selection of any resistance alone, any capacitance alone, or any combination of either. Open circuit and short circuit positions are provided as well. Capacitance and resistance values are accurate within 10% from 0.0001 to 0.22 μF, and 15 ohms to 10 megohms. **Size:** 6¾″ w. x 2⅜″ d. x 5¼″ h. Weight, 3 lbs.
Model 1140 Series/Parallel RC Comb.—Wired. Net....**$34.95**
Model 1140K Series/Parallel RC Comb. Kit—Net Ea... **24.95**

MODEL 1171 RESISTANCE DECADE

Wide range, versatile instrument covering 0–99,999 ohms in one ohm steps with five decades and ½% precision.
Model 1171 Resistance Decade—Wired. Net Each.....**$49.95**
Model 1171K Resistance Decade Kit—Net Each..... **34.95**

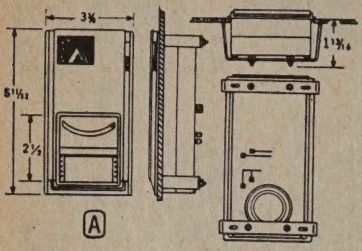
MODEL 1180 CAPACITANCE DECADE

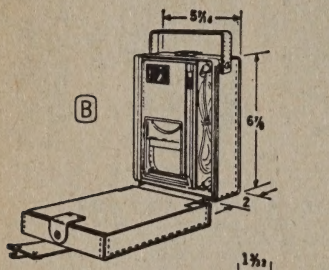
Precision silver-mica capacitors (±1% accuracy, 500 VDC rated), arranged in three decades—100 pF to 0.111 μF, in steps of 100 pF. Positive detent ceramic wafer switches.
Model 1180 Capacitance Decade—Wired. Net Each....**$39.95**
Model 1180K Capacitance Decade Kit—Net Each..... **29.95**

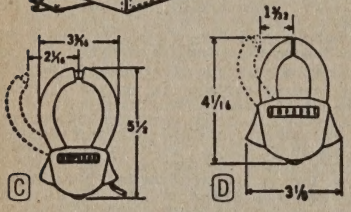
AMPROBE®

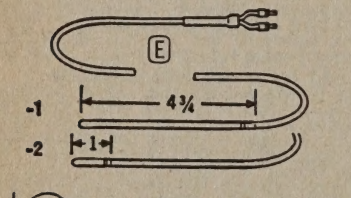
CHART RECORDERS AND ACCESSORIES

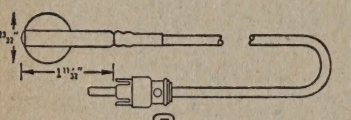
Versatility: Used as chart recorder or indicating meter. **Trouble-Shooting:** Makes permanent, continuous record of operating conditions. **Strip Charts:** Pressure sensitive paper, simple drop-in loading; no ink, no ribbon, no threading. **Operation:** Simple, precise and foolproof. **Two Types Available:** Flush-mounting models (Fig. A) supplied with mounting hardware, one each of necessary strip charts, motor leads not furnished; cased models (Fig. B) have permanently attached motor line cord and one each of necessary strip charts. **Paper Size:** 2½″ w. x 30′ lg. **Chart Speeds:** 1″ or 12″/hr., standard; other speeds available. Unless specified, 12″/hr. chart speed supplied. **Impressions/Minute:** 1/5 sec at 12″/hr.; 1/min at 1″/hr. **Accuracy (FS):** DC instruments, ±2% except L/FDV8600, ±3%; AC instruments*, ±3% except L/FAA1500, ±4%, and expanded scale voltmeters, ±1¼%. **Temperature Recorder Accuracy:** Low range: ±4° F up to +20° F; ±3° F, +20° F up. High range: ±5° throughout. **Power Required:** 2.5 watts, 115 VAC, 60 Hz is standard; available for 220 VAC, 50 Hz or 12 VDC; pricing on request.
*Based on sinusoidal waveform.

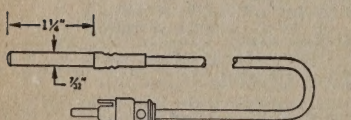


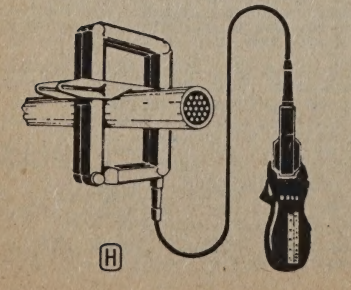












AC VOLTMETER RECORDERS

Amprobe Model	Fig.	Range, VAC	Net Each
FAV2X	A	95–130/190–260, expanded scale	$108.85
LAV2X	B		114.85
FAV3X	A	95–130/190–260/	130.85
LAV3X	B	380–520, expanded scale	136.85
FAV4X*	A	165–245/330–490	113.85
LAV4X*	B	dual range, expanded scale	119.85
FAV8600	A	0–150/300/600	113.85
LAV8600	B	(1380 ohms/volt)	119.85

*220 V 50 Hz only.

DC VOLTMETER RECORDERS

Three ranges; 3,333 ohms/volt. **Ranges:** 0–150/300/600 volts DC.
Amprobe Model FDV8600 (Fig. A)—
Net Each.....$113.85
Amprobe Model LDV8600 (Fig. B)—
Net Each.....$119.85

AC AMMETER RECORDERS

Amprobe Model*	Fig.	Range, Amps AC	Transducer	Net Each
LAA3	B	0–15/60/150/300	†	$259.85
FAA81	A	0–10/50/	A-70FL	119.85
LAA81	B	250/500		125.85
FAA82	A	0–5/25/	A-60FL	114.85
LAA82	B	100/250		120.85
FAA1500	A	0–800/	A-50FL	153.85
LAA1500	B	1500		159.85

*5 amp basic recorders also available; write for complete information. †With matched set of 3 transducers.

DC MICROAMMETER RECORDERS

Amprobe Model	Fig.	μADC Range	Resis., Ohms	Net Each
FDC8500	A	0–500	300	$93.85
LDC8500	B			99.85

DC AMMETER RECORDERS

Write for complete information on 50 mV recorders also available.

DC MILLIAMMETER RECORDERS

Range: 0–1 mADC. **Resistance:** 36 ohms.
Amprobe Model FDB81 (Fig. A)—
Net Each.....$93.85
Amprobe Model LDB81 (Fig. B)—
Net Each.....$99.85

NEW MULTI-POINT RECORDERS

Uses single meter movement (time-sharing) with stepping relay to record up to 3 variables on one chart. Transducers continuously sense the variables, recorded in a fixed sequence, controlled by the stepping relay. Traces of variables have different dot patterns for easy identification. Use also as single-channel unit, recording just one variable. Paper size, chart speeds and power required are same as listed for other models (see above). **Size:** 7⅜″ x 6¾″ x 5½″.

Amprobe Model	Ranges	Net Each
LAA3	0–15/60/150/300 amps AC; records 3 currents. With 3 transducers: 1, 2, 3 dots identify currents.	$259.85
LAV21	0–150/300/600 VAC; 0–15/60/150/300 amps AC; 1 dot or 3 dots indicates V or A on chart; with transducer	224.85
LT8200R	Records 2 temperatures, 1 event (4–300 amps AC, use A45-L for 0–4 A). With 1 current transducer. Temperature range determined by probes used: w/RBT-12, −40° to +60° F; w/RBT-14, −3.5° to +118° F. See Thermometer Probe listing, use two of same model.	216.85

AC VOLT/AMMETER RECORDERS

Amprobe Model	Fig.	Range	Net Each
LAV21#	B	0–150/300/600 V; 0–15/60/150/300 A	$224.85
FAVA81*	A	95–130/190–260 V;	165.85
LAVA81*	B	0–10/50/250/500 A	171.85
FAVA82†	A	95–130/190–260 V;	160.85
LAVA82†	B	0–5/25/100/250 A	166.85
FAVA83*	A	95–130/190–260/	182.85
LAVA83*	B	380–520 V; 0–10/50/250/500 A	188.85
FAVA84†	A	95–130/190–260/	178.85
LAVA84†	B	380–520 V; 0–5/25/100/250 A	184.85
FAVA85‡	A	165–245/330–490 V;	168.85
LAVA85‡	B	0–10/50/250/500 A	174.85
FAVA86§	A	165–245/330–490 V;	163.85
LAVA86§	B	0–5/25/100/250 A	169.85
LAVA87*	B	0–150/300/600 V; 0–10/50/250/500 A	175.85

*Current transducer supplied: A-70FL; †A-60FL; ‡A-75FL (220 V, 50 Hz); §A-65FL (220 V, 50 Hz). #With matched transducer.

TEMPERATURE RECORDERS

FT8100 and LT8100 Series supplied with one FL-RBT-1 probe; LT8200R supplied without probe.

FT8100	A	−50° F to +100° F,	$128.85
LT8100	B	+50° F to +250° F	134.85
FT8101	A	−45° C to +40° C,	128.85
LT8101	B	+10° C to +120° C	134.85
LT8200R	B	See listing below, left for ranges	216.85

ACCESSORIES

CURRENT TRANSDUCERS

See individual AC Volt/Ammeter Recorders for usage.

Amprobe Model	Fig.	Range, Amps AC	Net Each
A-75FL	C	0–10/50/250/500*	$31.85
A-70FL	C	0–10/50/250/500	31.85
A-65FL	D	0–5/25/100/250*	26.50
A-60FL	D	0–5/25/100/250	26.50

*220 V, 50 Hz.

THERMOMETER PROBES

Ranges: −50° to +100° F, +50° to +250° F. Leads, 12′. Probe, 3/16″ dia.

Amprobe Model	Fig.	Use with Model	Bulb	Net Each
FL-RBT-1	E-1	F/LT8100,	4¾″	$15.85
FL-RBT-2	E-2	F/LT8101	1″	15.85

Range: −40° to +60° F; leads, 15′.

RBT-12	F	LT8200R	1 11/32″	$9.50

Range: −3.5° to +118° F; leads, 15′.

RBT-14	G	LT8200R	1¼″	$15.85

VOLTAGE ADAPTER AND ENERGIZER

Amprobe Model ADV-220 Motor Voltage Adapter—Allows 115 VAC recorder motor to operate on 220 VAC. Net Ea..$7.25
Amprobe Model AV-750 Voltage Adapter—Permits models LAV21, LAVA87 and LAV8600 to record up to 750 VAC.
Net Each.....$5.85

STRIP CHARTS

Complete information prices on request.

MODEL CT-50 AMPTRAN (FIG. H)

Flexible-link, split core transformer (5000 amps AC) can be clamped around bus or cable without shutting down service. Extends current ranges 50 times up to 5000 amps max. continuous duty. Can be adjusted in shape from 3 15/16″ x 8⅞″ rectangle to hexagon measuring 7½″ across the flats. Output pick-up coil can accommodate jaws of current transducers. Eight foot cord on pickup coil permits positioning where it will be least affected by magnetic fields. Insulated for 5000 V (7000 V peak). May be used with Amprobe instruments calibrated for 50 or 60 Hz.
Amprobe Model CT-50—With carrying case and centering bars. Net..$185.00

AMPROBE® ROTARY SCALES (FIG. A)

Extra easy reading, with six scales that rotate at the flick of a finger. Four current ranges, two voltage ranges on long, magnified scales minimize chances of error. One-hand operation. **Accuracy:** ±3% full scale, based on sinusoidal waveform. Self-shielding internal core magnet; insulated probe jaws dovetail; bayonet test leads. Light weight plastic case is ribbed for easy handling; shaped to fit into crowded switch boxes easily. **Size:** 7½" long. Weight, 14 oz. Carrying case and test leads included. Current ranges, amps AC; voltage ranges, volts AC.

Amprobe Model RS-1—Current ranges, 0–6/15/40/100. Voltage ranges, 0–150/600. Net Each.....**$48.85***

Amprobe Model RS-2—Current ranges, 0–6/15/40/100. Voltage ranges, 0–150/300. Net Each.....**$48.85***

Amprobe Model RS-3—9 scales. 5 current, 3 voltage and 1 ohm range. Ranges: 0–6/15/40/100/300, current; 0–150/300/600, voltage; 25 ohms mid-scale, ohmmeter. With battery attachment for ohmmeter readings. Net Each.....**$63.25***

Amprobe Model RS-3 for 400 Hz—As above, but calibrated for 400 Hz. Ideal for aircraft applications. Net Each.....**$89.85**

Amprobe Model RS-300—Current ranges, 0–6/15/40/100/300. Voltage ranges, 0–150/300/600. Net Each.....**$59.25***

Amprobe Model RS-1000—Current ranges, 0–15/40/100/300/1000. Voltage ranges, 0–150/300/600. Ohmmeter, 25 ohms mid-scale. Battery attachment for ohmmeter. Net Each....**$84.85**

Amprobe Model RS-1007—As above, but voltage ranges 0–150/300/750. Net Each.....**$84.85**

*Also available with No. VLK-311R Extendo-Leads and No. A case with space for A-45L Energizer. Extendo-Leads end awkward, three-handed voltage readings and eliminate need for holding instrument while test probes are applied to circuit. To order, add suffix **A** to No. (e.g., RS-1**A**) and **$5.50** to price shown.

AMPROBE JUNIORS (Y) (FIG. B)

Comes with voltage test leads, yellow.

Amprobe Model	Ranges		Net Each
	Amps	Volts	
Y-550	0–50 AC	0–150/600 AC	$26.85
Y-500	0–100 AC	0–150/600 AC	26.85
Y-25	0–25 AC	0–125/250 AC	26.85

AMPROBE JUNIORS (YO, YT, YTO)

As illus. in Fig. B. With test leads and ohmmeter range. Yellow.

Amprobe Model	Ranges, AC			Net Each
	Amps	Volts	Ohms*	
YO-525	0–25	0–150/600	25	$32.25
YO-550	0–50	0–150/600	25	32.25
YO-500	0–100	0–150/600	25	32.25
YT-1025	0–10/25	0–150/300	.....	32.25
YT-25100	0–25/100	0–150/300	.....	32.25
YT525/100	0–25/100	0–150/600	.....	32.25
YTO525/100	0–25/100	0–150/600	25	37.25

*Mid-scale.

AMPROBE JUNIORS (YTB)

Each includes one YT Amprobe Junior, No. B case and No. VLK-355R Extendo-Leads. Space is provided for the No. A-45L Energizer that extends sensitivity 5x or 10x on current ranges and permits voltage readings at the outlet under load conditions.

Amprobe Model	Ranges, AC		Net Each
	Amps	Volts	
YTB-1025	0–10/25	0–150/300	$38.25
YTB-25100	0–25/100	0–150/300	38.25

AMPROBE JR. TEST MASTER KITS (FIG. C)

Includes "YO" Amprobe Junior, A-45L Energizer to extend sensitivity 5x or 10x, ohmmeter test lead attachment, test leads, sturdy case. *Mid-scale.

Amprobe Model	Ranges, AC			Net Each
	Amps	Volts	Ohms*	
TM-YO-525	0–25	0–150/600	25	$43.50
TM-YO-550	0–50	0–150/600	25	43.50
TM-YO-500	0–100	0–150/600	25	43.50

VOLTPROBE® VOLTAGE TESTER (FIG. D)

Compact 10-range tester fits in a shirt pocket. Visual readout with series of windows that light to correspond with each voltage level. Frequency range, 25–800 Hz. Sliding probe pushes through body; second probe has coiled cord. AC ranges, 0–115/220/277/440/550 V. DC ranges, 0–115/220/400/600/750 V.

Amprobe Model VT-100—Net Each.....**$ 9.85**

Amprobe Model VT-124—Above plus 24/48 VAC. Net. **15.50**

AMPROBE FASTEMP® THERMOMETERS (FIG. E)

Handy, pocket-sized thermometer checks surface, liquid, or gaseous temperatures with universal probe (included). Unit will accommodate up to three probes, each with a 15-ft. lead, for temperature monitoring of locations as much as 30 feet apart; special air and immersion probes also available. Probe selector switch, range switch calibration control, and press-to-read button all conveniently located in front. Press-to-read button can be locked on for continuous readings. Available in four dual-range models: −50° F to +50° F and +40° F to +150° F; −45° C to +10° C and +6° C to +65° C; +10° F to +110° F and +100° F to +250° F; −12° C to +43° C and +38° C to +120° C. Use 4 Eveready 915 batteries. Weight, 10 oz.

Amprobe Model T-150—Range, −50° F to +150° F....**$46.50**

Amprobe Model T-150C—Range, −45° C to +65° C.... **46.50**

Amprobe Model T-151—Range, +10° F to +250° F.... **46.50**

Amprobe Model T-151C—Range, −12° C to +120° C... **46.50**

AMPROBE FASTEMP® TMVO

For servicing appliances (ovens, dryers), motors, furnaces (oil, gas), and industrial equipment. Measures: Temp., 70–1200° F (30°–640° C); 0–50/1000 mV; resis., 5 and 50 ohms mid-scale.

Amprobe Model T-152—With thermocouple, test leads, clip adapter and carrying case. Net Each.....**$59.85**

AMPROBE JUNIOR LINE-PROBE (ALP)

Traces up to ten pairs of conductors simultaneously. Measures volts, amperes, resistance, checks continuity. Supplied with case, fused battery attachment, ten station markers, two station holders, voltage leads and grounding leads.

Amprobe Model ALP-501—Current range, 0–100 amps AC. Voltage ranges, 0–150/600 VAC; 1K ohm mid-scale. Net...**$49.50**

MULTITESTERS (FIG. F)

Amprobe Model AM-1—Designed for industrial use. Voltage, 0–30/150/300 VAC; 0–3/15/30/300 VDC. Millivolts, 0–60/1200 mV. Current, 0–30/150 mA. Resistance, 0–200/2K/20K/200K ohms on scales of 1, 10, 100 and 1000. Temperature, +70° F to +1200° F (with TC-3, not supplied). Accuracy, ±3% FS DC; ±4% FS AC. Includes voltage test leads, alligator test leads and battery. Net Each.....**$27.50**

Amprobe Model AM-2—For general purpose use. Voltage, 0–2.5/10/50/250/1000 VDC; 0–10/50/250/500/1000 VAC. Resistance, 0–10K/100K/1000K ohms. Current, 0–50 μA DC; 0–25/250 mA DC. Inductance, 0–5000 H; 250 pF–0.2 μF capacitance. Decibels, −20 to +22 and +20 to +36 dB. Accuracy, ±3% FS DC; ±4% FS AC. With test leads and battery. Net Each..**$19.95**

Amprobe Model TC-3—Thermocouple for AM-1. Net.. **14.85**

Amprobe Model MM—Carrying case. Net Each..... **4.50**

AMPROBE TEST MASTER KITS (FIG. G)

Complete with sturdy carrying case with snap-lock, handle, built-in tool compartment and test leads.

Amprobe Model TM-33A—Contains RS-3 snap-around volt-ammeter-ohmmeter with 5 current, 1 resistance, 3 voltage ranges; Deca-Tran to extend current reading 10x up to 1200 amps; Extendo-Leads; Energizer; No. U case. Net Each....**$112.85**

Amprobe Model TM-43A—Contains RS-3 snap-around volt-ammeter-ohmmeter; Deca-Tran; Extendo-Leads; Energizer; PSA-1 Phase Sequence Adapter; No. U case. Net Each.**$125.85**

Amprobe Model TM-63—Contains RS-3; Extendo-Leads; Energizer; No. A case. Net Each.....**$75.85**

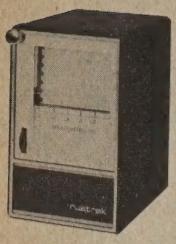
Amprobe Model TM-60—Contains Extendo-Leads; Energizer; No. A case. Net Each.....**$18.25**

ACCESSORIES

Model No.	Description	Net Each
PSA-1	**Phase sequence adapter,** permits determining phase sequence of three-phase circuits up to 550 VAC when used with Amprobe or other multimeter having appropriate AC voltage ranges.	$16.85
A-45L (Fig. H)	**Energizer,** for direct 5x and 10x sensitivity readings on permanently wired equipment and line voltage readings, in weatherproof pouch with shorting cap and adapter lead.	8.25
A-50-1	**Deca-Tran,** extends amperage readings 10x; up to 1200 amps max. With 2-ft. line cord for remote readings. Carrying case included.	37.50
CT-50	**Amptran** flexible-link, split-core transformer extends current readings 50x up to 6,000 amps, intermittent duty. Accommodates bus bar or cable. With carrying case.	185.00
VL-11R	**Bayonet safety type voltage leads,** for use with all Rotary Scale models* (RS).	3.15
VL-55R	**Voltage leads,** set of 2* for any Junior (Y, YO) or Junior Line-Probe (ALP).	3.15
VL-750R	**High voltage multiplier leads,** for use with all Rotary Scale models (RS); reads to 750 VAC*.	4.25
VLK311R	**Extendo-Lead pack** for RS-1 thru RS-300; includes VL312R, VC314 and AC315.	4.85
VLK355R	**Extendo-Lead pack** for Junior models; includes VL356R, AC357 and VC314.	4.85

*With detachable test prods.

MINIATURE GRAPHIC RECORDERS
AS LOW AS $115.00



Miniature analog recorders print on pressure-sensitive chart paper, have wide applications in industry. Accuracy is ±2% of full scale (±1% available on special order). Standard chart speed is 1" per hour; easily changed with optional gear boxes (listed on opposite page). 63-foot chart paper roll lasts one month at 1" per hour. Features include: Internal chart review; time setting thumbwheel; chart access window; tear-off or reroll chart operation easily interchanged. Response time, 1 second for most units. Scale width: Single channel, 2 5/16"; dual channel, 1". Operate from 115 VAC, 60 Hz. Ready to use; complete with panel mounting hardware, one roll of chart paper and operating manual. Finished in charcoal gray suede coating. Size, 3⅝" w. x 4 5/16" d. x 5⅝" h. Shipping Weight, 5 lbs.

Miniature Graphic Recorders are available in other ranges and models. Write for brochure and prices.

SINGLE CHANNEL DC RANGE RECORDERS

Rustrak Model	Range	Resistance, Ohms	Net Each
288	0–10 μA	5700	$149.00
288	0–50 μA	4700	132.00
288	0–100 μA	4600	127.00
288	0 1 mA	100	115.00
288	0–100 mV	100	115.00

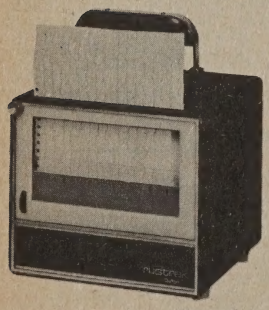
SINGLE RANGE DC VOLTAGE RECORDERS

Rustrak Model	Range	Sensitivity	Net Each
288	0–1 VDC	1000 ohms/V	$121.00
288	0–3 VDC	1000 ohms/V	121.00
288	0–5 VDC	1000 ohms/V	121.00
288	0–10 VDC	1000 ohms/V	121.00
288	0–50 VDC	1000 ohms/V	121.00
288	0–100 VDC	1000 ohms/V	121.00

DUAL CHANNEL DC RANGE RECORDERS

Rustrak Model	Ranges (Dual Channel)	Resistance, Ohms	Net Each
291	0–1 mA and 0–1 mA	100	$165.00
291	0–100 μA and 0–100 μA	4600	182.00
291	0–50 μA and 0–50 μA	5400	193.00

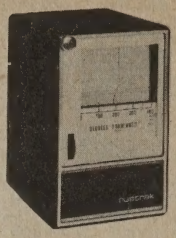
4-, 8- AND 16-CHANNEL EVENT RECORDERS



Record four, eight or sixteen on-off events on the same chart. Actuator response time is 10 milliseconds. Access window slides down for notes. Thumbwheel chart advance operates from front panel for precise time setting or fast paper discharge. Operates at one chart speed (¼, ½, 1, 2, 3, 6, 10, 12, 15, 30 or 60 inches per hour; specify when ordering). Other chart speeds are easily obtainable by using interchangeable gear box listed on opposite page. Standard recorder has 115 VAC, 60 Hz, 2-rpm motor; available with other motor speeds for chart speed up to 3000 inches/hour on special order. Requires 24 VDC at 70 mA per channel; use Model 921-8 power supply, below. Includes one roll of chart paper and operating manual. Finished in charcoal gray suede coating. Size: 4- and 8-channel models, 3⅝" w. x 4 5/16" d. x 5⅝" h.; 16-channel model, 6⅝" w. x 6" d. x 5⅝" h. Shipping Weight, 5 lbs. except 392-16, 8 lbs.

Rustrak Model 292-4 Recorder—4-channel. Net.....**$131.00**
Rustrak Model 292-8 Recorder—8-channel. Net..... **182.00**
Rustrak Model 392-16 Recorder—16-channel. Net... **405.00**
Rustrak Model 921-8 Power Supply—One required for 4 or 8-channel recorders; two needed for 16-channel recorder. Shpg. Wt., 5 lbs. Net Each.....**$33.00**

MODEL 2122 RECORDING PYROMETER

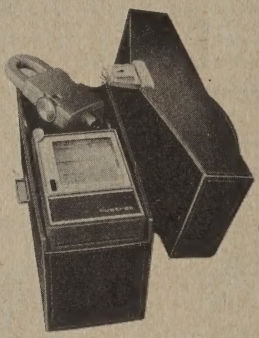


Single channel thermocouple recorder has four switchable ranges: 0–400° F, 0–800° F, 0–1200° F and 0–2400° F; also available in Centigrade equivalents. Cold junction compensation. Supplied with I/C and C/A thermocouples. Operates from 115 VAC, 60 Hz. Size, 3⅝" w. x 6" d. x 5⅝" h. Shipping Weight, 7 lbs.

Rustrak Model 2122 Recording Pyrometer—Specify °F or °C calibration.
Net Each.....**$253.00**

Thermistor and resistance element temperature recorders are also available. Write for descriptive bulletin.

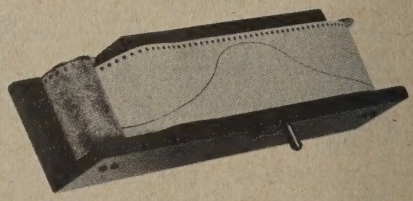
MODEL 230 VOLT/AMP RECORDER



Industrial and commercial AC voltage and current recorder, housed in leatherette case. Three switchable voltage ranges: 0–150, 0–300 and 0–600 volts with ±3% accuracy. Three switchable current ranges: 0–25, 0–100 and 0–300 amps with ±4% accuracy. Thumbwheel chart advance; sliding chart access window. Standard chart speed is 1" per hour; other speeds available on special order. Uses Q & R type chart paper. Operates from 115 VAC, 60 Hz; draws 3 watts. Furnished with two rolls of chart paper, clamp-on transducer and test leads. Size, 11" long x 4¼" wide x 6½" high. Shipping Weight, 10 lbs.

Rustrak Model 230 Volt/Amp Recorder—Net Each..**$175.00**

MODEL 168 CHART VIEWER



Accepts strip chart recording paper from 1⅞" to 3" wide, with ⅝" I.D. core. Shows 12" of chart at one time. Maximum roll capacity, 2" O.D. Size, 14" long x 3½" wide x 2⅝" high.

Rustrak Model 168 Chart Viewer—Net Each.....**$77.00**

OTHER AC RECORDERS
AC VOLTMETER RECORDERS

Rustrak Model	AC Ranges	Net Each
288R	0–150 V	$130.00
293	70–135 V	135.00
293B	70–135, 140–270 and 280–540 V	150.00
293A	70–135 and 140–270 V	140.00
2186	105–125 and 210–250 V	165.00
2186A	105–125, 210–250 and 420–500 V	175.00

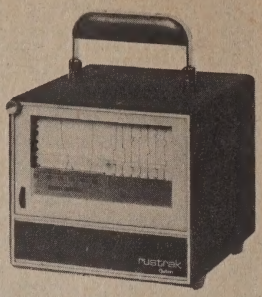
AC AMMETER RECORDERS

Rustrak Model	AC Ranges	Net Each
2118	0–1 and 0–5 amps	$165.00
2107	0–500 amps with clamp-on transducer	170.00

rustrak
THE MINIATURE RECORDER PEOPLE

POTENTIOMETRIC RECORDERS AND ACCESSORIES

300 SERIES RECORDERS

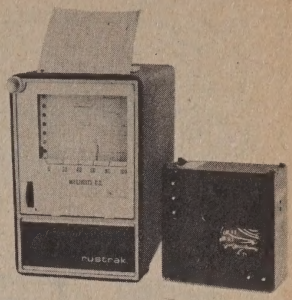


Miniature analog recorder series, available in two- or four-channel models. 5½" wide chart features 2⁵⁄₁₆" scale width for two-channel recorders, 1" per channel for four-channel models. Standard chart speed is 1" per hour; easily changed with optional gear box, listed below. 63-foot roll of chart paper lasts one month at 1" per hour speed. Convenient time setting thumbwheel for precise or rapid chart advance. Sliding access window permits making notes on chart. Finished in charcoal gray suede coating. Includes handle, one roll of chart paper and operating manual. Size, 6⅝" w. x 6" d. x 5⅝" h. Shipping Weight, 8 lbs.

Rustrak Model	Channels	Range, Each Channel	Resis. per Channel	Net Each
388	2	0–10 μA	5700 ohms	$345.00
388	2	0–50 μA	4700 ohms	315.00
388	2	0–100 μA	4600 ohms	305.00
388	2	0–1 mA	100 ohms	285.00
388	2	0–100 mV	100 ohms	285.00
391	4	0–1 mA	100 ohms	375.00
391	4	0–100 μA	4600 ohms	405.00
391	4	0–50 μA	5400 ohms	425.00

300 Series Recorders are available in other ranges. Write for descriptive brochure and prices.

400 SERIES POTENTIOMETRIC RECORDERS



Continuous impression instrument records on pressure-sensitive paper. Offers basic sensitivity of 100 mV with ±0.5% full-scale accuracy. Features 2⁵⁄₁₆" scale width; inkless writing; floating input; chart tear-off or reroll operation, easily interchanged. Standard chart speed is 1 inch per hour; changeable from ½" per hour to 240" per hour with optional gear boxes, listed at left. Input resistance, 1 megohm minimum. 60 Hz rejection, 100 dB minimum. Finished in charcoal gray suede coating. Order chart paper listed below, with prefix "W" (WA, WB, etc.). Includes one roll of chart paper. Operates from 115 V, 60 Hz only; for DC operation, use S-4126 inverter below. Usable with all Add-A-Function Modules. Size, 3⅝" w. x 6" d. x 5⅝" h. Shipping Weight, 5 lbs.

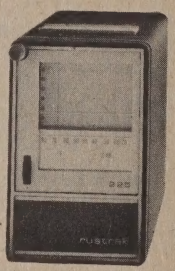
Rustrak 400A Series Recorder—Net Each..... **$285.00**

MODEL 3400A DUAL-CHANNEL POTENTIOMETRIC RECORDER

Same specifications as 400 Series above, but has two channels. Scale width, 2⁵⁄₁₆" per channel. Usable with Add-A-Function Modules below. Size, 6⅝" w. x 6" d. x 5⅝" h. Shpg. Wt., 10 lbs.

Rustrak Model 3400A Recorder—Net Each..... **$645.00**

MODEL 225 RELATIVE HUMIDITY/ TEMPERATURE RECORDER



Electronically monitors relative humidity from 10% to 90% and temperature from 60° F to 90° F on a single chart. No ink to add; no messy cartridges to change. Chart lasts for two months of continuous monitoring operation. Ideal for use in computer rooms, offices, and similar applications. **Accuracy:** Temperature, ±1° F; humidity, ±4 (for 20–80% relative humidity at 77° F). **Response Time:** Temperature, 1 second (63%); humidity, 30 seconds (63%). **Sampling Rate:** 8 seconds for one cycle. **Paper:** Uses Style P chart paper (listed below). Complete with sensors and wall or panel mounting hardware. Size, 3⅝" w. x 4⅝" d. x 5⅝" h. Shipping Weight, 5 lbs.

Rustrak Model 225 Humidity/Temperature Recorder—Net Each.... **$340.00**

Remote Cables—Permit remote operation of Model 225 recorder up to 100 feet from sensor. 25-foot Cable. Net Each... **$10.00** 50-foot Cable. Net... **$15.00** 100-foot Cable. Net... **22.50**

ADD-A-FUNCTION MODULES

Small solid-state modules plug into rear of Model 400 and 3400 recorders to change function, increase sensitivity or add ranges. No external power supply needed; no wiring required. Each module is interchangeable with any other in potentiometric series recorders. Supplied with recorder scale to match function.

Rustrak Type	Description or Range	Input Resis. or Freq.	Accuracy	Net Each
P4001	0–10 mV	10k	±0.5%	$160.00
P4004	0–50 mV	1 meg	±0.5%	83.00
P4005	0–10 VDC	50k	±0.5%	22.00
P4005	0–50 VDC	10k	±0.5%	22.00
P4005	0–100 VDC	10k	±0.5%	22.00
P4005	0–150 VDC	10k	±0.5%	22.00
P4005	0–500 VDC	10k	±0.5%	22.00
P4006	0–50 μA	5400 ohms	±0.5%	22.00
P4006	0–100 μA	4600 ohms	±0.5%	22.00
P4006	0–100 μA	1000 ohms	±0.5%	22.00
P4006	0–200 μA	2200 ohms	±0.5%	22.00
P4006	0–500 μA	200 ohms	±0.5%	22.00
P4006	0–1 mA	100 ohms	±0.5%	22.00
P4088R	0–150 VAC	60 Hz	±2%	40.00
P4088R	0–300 VAC	60 Hz	±2%	40.00
P4088R	0–600 VAC	60 Hz	±2%	40.00
P4093	75–135 VAC	60 Hz	±2%	50.00
P4093	150–270 VAC	60 Hz	±2%	50.00
P4093	300–540 VAC	60 Hz	±2%	50.00
P4186	100–130 VAC	60 Hz	±1 V	50.00
P4186	200–260 VAC	60 Hz	±2 V	50.00
P4186	400–520 VAC	60 Hz	±4 V	50.00
P4118	0–1 and 0–5 amps AC	.....	±2%	45.00

Write for brochure on complete line.

ACCESSORY GEAR BOXES

For quick change of chart speed on Rustrak recorders. When used with 2-rpm motor, gear box number equals chart speed (⅛ to 60 inches per hour). When used with Model 400 recorder, chart speed equals gear box number (⅛ to 60) times four (½ to 240, inches per hour). For other motor speeds, chart speed equals half of motor speed (rpm) times the gear box number.

Rustrak Gear Box—Specify number: ⅛, ¼, ½, 1, 2, 3, 4, 6, 10, 12, 15, 30, 45 or 60. Net Each..... **$6.00**

CHART PAPER IN 63-FOOT ROLLS

STANDARD SINGLE AND DUAL CHANNEL

Rustrak Style	Description	Channels	Net Each
A	50 divisions	Single	$2.75
B	75 divisions	Single	2.75
C	65 divisions	Single	2.75
H	40 divisions	Single	2.75
I	30 divisions	Single	2.75
K	60 divisions	Single	2.75
D	20–20 divisions	Dual	2.75
N	50 divisions and 1 event	Dual	2.75

SPECIAL CHART PAPER

Rustrak Style	Description	Net Each
EE	4 and 8 events	$2.75
P	For Model 225 (Humidity/Temperature)	2.75
Q	For Model 230 (Current)	2.75
R	For Model 230 (Voltage)	2.75

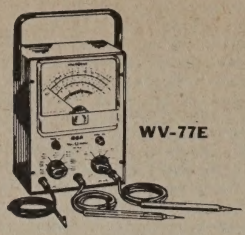
FOR 400 AND 3400 SERIES RECORDERS

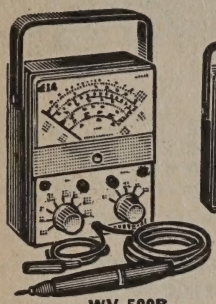
Rustrak Style	For Series	Description	Channels	Net Each
WA	400	50 divisions	Single	$2.75
WB	400	75 divisions	Single	2.75
WC	400	65 divisions	Single	2.75
WH	400	40 divisions	Single	2.75
WI	400	30 divisions	Single	2.75
WK	400	60 divisions	Single	2.75
WA-A	3400	50–50 divisions	Dual	4.50
WA-G	3400	50 divisions, 8 events	Dual	4.50

FOR 300 SERIES RECORDERS

Rustrak Style	Description	Net Each
A-A	50-50 divisions	$4.50
A-E	50 divisions and 8 events	4.50
D-D	20-20/20-20 divisions (4 channels)	4.50
16E	16 channels, events	4.50

WV-38A


WV-77E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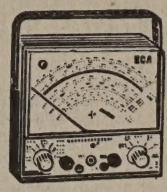
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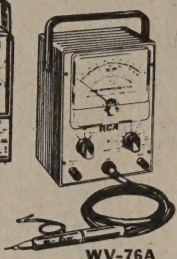
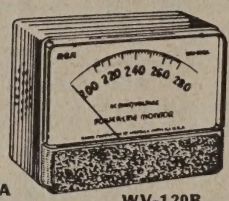
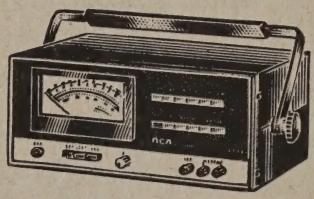

WV-76A

WV-526A


WV-120B
WV-503A


WV-511A

MODEL WV-38A VOM

The basic instrument for all types of electronic servicing, comes with 5″ meter scale (meter movement protected against burnout). Two extra scales: 1-volt and 0.25-volt for transistor servicing applications. Clips on side hold probes and cable when not in use. **AC Volts:** 0–2.5, 10, 50, 250, 1000, 5000 volts. Accuracy, ±5%; input resistance, 5000 ohms/volt; frequency response, flat within 0.5 dB from 10 Hz to 50 kHz on the 2.5, 10, and 50 volt ranges (reference, 1000 Hz). **DC Volts:** 0–0.25, 1.0, 2.5, 10, 50, 250, 1000, and 5000 volts. Accuracy, ±3%; input resistance, 20,000 ohms/volt. **Ohms:** 0–2K ohms (12 ohms center); 0–200K ohms (1200 ohms center); 0–20 megs (120K ohms center). **DC Current:** 0–50 μA; 0–1, 0–10, 0–100, 0–500 mA; 0–10 A. Accuracy, ±3%. **Size:** 5¼″ w. x 3⅛″ d. x 5⅞″ h. Weight, 3½ lbs.

Model WV-38A—Complete with red test lead and probe, slip-on alligator clip and red insulating boot, black test lead with alligator clip and black insulating boot, instruction book. Net...**$75.00**

MODEL WV-77E VOLTOHMYST®

Features flat frequency response ±5% from 40 Hz to 5 MHz on the 1.5, 5 and 15-volt rms ranges and the 4, 14 and 40-volt p-p ranges. Measures DC, rms AC, p-p AC and resistance—all in seven overlapping ranges. Full-scale accuracy is ±3% on DC, ±5% on AC. Meter is electronically protected against burnout; has color-coded scales for easier readings and separate scales for low AC measurements. Input resistance, 11 megohms. **AC Volts:** 0.2 to 4200 V p-p and 0.1 to 1500 V rms. **DC Volts:** 0.02 to 1500 V. **Resistance:** 0.2 ohm to 1000 megs. **Size:** 5⅝″ w. x 4¾″ d. x 7¾″ h. Weight, 5 lbs.

Model WV-77E—Complete with DC probe and cable, AC-Ohms probe and cable, ground cable, instruction book. Net...**$89.00**

MODEL WV-98C SENIOR VOLTOHMYST®

Direct reading of peak-to-peak voltages; DC 0.5 V range for transistor circuits; ±3% accuracy full-scale on both AC and DC with less than 1% tracking error; 6½″ mirrored scale. **AC Volts:** P-p values of complex waveforms from 0 to 4200 V and rms values from 0 to 1500 V. **DC Volts:** From 0 to 1500 V on two scales in eight overlapping "3-to-1" ranges. **Resistance:** From 0.2 ohm to 1000 megohms on single scale with seven overlapping ranges. **Size:** 7″ w. x 3¾″ d. x 6½″ h. Weight, 6 lbs.

Model WV-98C—Complete with DC/AC-Ohms probe and cable, 1.5 V battery, slip-on alligator clip, insulator, instruction book. Net Each.....**$109.00**

MODEL WV-500B VOLTOHMYST®

This fine instrument of the famous VoltOhmyst line is battery operated and solid state, eliminating warm-up time as well as zero-shift that can often occur with tube-operated voltmeters. The highly portable WV-500B is excellent for service, industrial and lab use, and has an 11-meg input impedance on all DC ranges. **AC Volts:** P-P values of complex waveforms from 0 to 4200 V, and rms values from 0 to 1500 V. **DC Volts:** 0 to 1500 V in eight overlapping ranges, with special 0.5 V range. **Resistance:** 0 ohm to 1000 megs in seven overlapping ranges. **Size:** 5¼″ w. x 3⅛″ d. x 6⅞″ h. Weight, 3½ lbs.

Model WV-500B—Complete with DC/AC-Ohms probe and cable, slip-on alligator clip, two current leads, one 1.5 V battery, three 9 V batteries, instruction book. Net Each.....**$109.00**

MODEL WV-510A MASTER VOLTOHMYST®

High quality, solid state electronic multimeter is especially designed for stable, drift-free operation. May be operated from internal batteries (not supplied), or from 120 VAC power line. When battery operated, the power cord can be removed for complete portability. **Measures:** DC voltage, 0.01 to 1500 volts. Direct current, 0.01 mA to 1.5 amps. AC voltage, 0.2 to 1500 V rms. AC peak-to-peak voltage of complex waveforms, 0.5 to 4200 volts. Resistance, 0.2 ohm to 1000 megs in seven overlapping ranges. **Size:** 7″ w. x 3¾″ d. x 6½″ h. (less handle). Weight, 6 lbs.

Model WV-510A—Complete with DC/AC-Ohms probe and cable with BNC connector, slip-on alligator clip, two current leads, one ohms-circuit 1.5 V battery, instruction book. Net Ea...**$139.00**

MODEL WV-76A AC VTVM

Nine overlapping AC voltage ranges permit measurements from 0.0002 V to 100 V. Separate dB scale for measurements of levels from −40 dB to +40 dB. Direct/Low capacitance input probe measures up to 500 V or +56 dB. Frequency response is flat from 10 Hz to 500 kHz with "Low Cap" probe; 10 Hz to 1.5 MHz with "Direct" probe. Accuracy of voltage and decibel measurements, ±5% FS. May be used as a preamp, 38 dB max. gain on 10 mV range. **Size:** 5⅜″ w. x 4¾″ d. x 7⅜″ h. Weight, 5 lbs.

Model WV-76A—With Direct/Low capacitance probe, slip-on alligator clip and insulator, instruction book. Net Each.....**$120.00**

MODEL WV-526A CLAMP TESTER

Measures AC current, volts and ohms. Insulated clamp permits current measurements without direct connection to electrical circuit. "Stop-lock" feature freezes the meter reading at will; permits measurements in dark or hard-to-get-areas. Color-coded panel and meter scale. **AC Current (60 Hz):** 0–0.6, 1.5, 6, 15, 60, 150, 300 A; ±3% FS accuracy. **AC Voltage:** 0–150, 300, 600 V; ±3% FS accuracy; 2200 ohms/volt. **Resistance:** 1 to 1000 ohms (30 ohms center-scale); ±3% scale length accuracy. **Fuse:** 0.1 A. **Size:** 2¾″ w. x 1½″ d. x 7½″ h. Weight, 9½ oz.

Model WV-526A—With line splitter/current transformer, voltage and special clip leads, shorting plug, carrying case, 1.5 V battery for ohms measurement, extra fuse. Net Each.....**$59.90**

120 V AND 240 V POWER LINE MONITORS

Provides continuous, accurate indication of power line voltage on expanded, two-color scale. Gives true rms reading from 100 to 140 volts with moving-vane type meter. **Accuracy:** ±2% center-scale; ±3% ends of scale. **Frequency Range:** 25–400 Hz.

Model WV-120B—Net Each.....**$27.00**
Model WV-503A—Above, for 200–280 volts. Net Each. **24.50**

MODEL WV-511A PICOAMMETER

Ultra-sensitive instrument designed to measure low levels of DC current from 1 pA (10^{-12} A) to 30 mA. Can also be used as a high input-resistance voltmeter in applications that require an electrometer and as a megohmeter to measure resistances up to 10K megs using an external 10 mV voltage source. PICOAMMETER: **Ranges:** 18 overlapping, 0.1 nA to 30 mA FS. Grouped in convenient functions of nA, μA and mA. **Accuracy:** ±3% FS. **Zero Drift:** Less than ±2%/24-hour period (with input shorted). **Voltage Drop:** 10 mV FS on any range. **Input Resistance:** Varies, 100 megs on 0.1 nA range to 0.332 ohm on 30 mA range. **Rise Time:** 10 ms approx., all ranges. **Overload:** 1000 V max. transient. DC VOLTMETER: **Range:** 0–10 mV, resolution to 100 μV. **Input Resistance:** 100 megs on 0.1 nA range; accuracy ±2% FS. MEGOHMETER: Measures up to 10,000 megohms using external 10 mV supply. **Isolation:** Circuit ground isolated from chassis ground. **Power Required:** 2 watts, 120 V or 240 VAC, 50–60 Hz (switch selected, batteries not supplied). **Size:** 12″ w. x 8¼″ d. x 5¼″ h. Weight, 10 lbs.

Model WV-511A—With shielded dual banana plug, 4-ft. shielded 2-conductor cable, alligator clips, plug for recorder output connector. Net Each.....**$250.00**

MODEL WV-516A VOM

Compact, lightweight and economical. Pin-jack connectors used for all functions and ranges. Three-color meter scales. **AC Volts:** 0–5, 25, 250, 1000 V rms. Accuracy, ±4%; sensitivity, 2000 ohms/volt. **DC Volts:** 0–5, 25, 250, 1000 volts. Accuracy, ±3%; sensitivity, 2000 ohms/volt. **Ohms:** 0–2K ohms (30 ohms center), 0–200K ohms (3000 ohms center). **DC Current:** 0–0.5, 0–10, 0–250 mA. Accuracy, ±3%. **Size:** 3⅛″ w. x 1⅝″ d. x 4⅝″ h. Shipping Weight, 1 lb.
Model WV-516A—Complete with test leads and 1.5 volt battery. Net Each.....**$16.50**

MODEL WV-517A VOM

Has convenient panel switch for selection of all functions and ranges. Three-color meter scales. **AC Volts:** 0–12, 60, 120, 600 V rms. Accuracy, ±4%; sensitivity, 10K ohms/volt. **DC Volts:** 0–0.3, 3, 12, 60, 120, 600 volts. Accuracy, ±3%; sensitivity, 20K ohms/volt (0.3 V, 16.5K ohms/volt). **Ohms:** 0–5K ohms (55 ohms center), 0–500K ohms (5500 ohms center), 0–5 megs (55K ohms center). **DC Current:** 0–60 μA; 0–3, 0–300 mA. Accuracy, ±3%. **Decibels:** −20 dB to +37 dB. **Size:** 3¼″ w. x 1½″ d. x 4¾″ h. Shipping Weight, 1 lb.
Model WV-517A—Complete with test leads and two 1.5 volt batteries. Net Each.....**$24.75**

MODEL WV-518A VOM

Panel mounted fuse to protect ohms-divider resistors. Has three-color meter with mirror scale. **AC Volts:** 0–15, 50, 150, 500 V rms. Accuracy, ±4%; sensitivity, 10K ohms/volt. **DC Volts:** 0–0.5, 1.5, 5, 15, 50, 150, 500 volts. Accuracy, ±3%; sensitivity, 20K ohms/volt. **Ohms:** 0–2K, 20K, 200K, 2 megohms. **DC Current:** 0–0.5, 5, 50, 500 mA. Accuracy, ±3%. **Size:** 3½″ w. x 1⅞″ d. x 5⅛″ h. Shipping Weight, 1½ lbs.
Model WV-518A—Complete with test leads and two 1.5 volt batteries. Net Each.....**$36.00**

MODEL WV-519A VOM

Three-color aluminum panel; three-color meter with mirror scale. Has DC polarity switch and high sensitivity. **AC Volts:** 0–6, 30, 120, 300, 600, 1200 V rms. Accuracy, ±4%; sensitivity, 10K ohms/volt. **DC Volts:** 0–0.3, 3, 12, 60, 120, 300, 600, 1200 volts. Accuracy, ±3%; sensitivity, 50K ohms/volt (0.3 V, 33K ohms/volt). **Ohms:** 0–10K, 1 meg, 10 megs, 100 megs. **DC Current:** 0–0.03, 6, 60, 300 mA; 0–6 A. Accuracy, ±3%. **Decibels:** −20 dB to +57 dB. **Size:** 4¼″ w. x 1⅞″ d. x 6⅜″ h. Shipping Weight, 2 lbs.
Model WV-519A—Complete with test leads and one 22.5 V and two 1.5 V batteries. Net Each.....**$44.75**

MODEL WV-520A VOM

Three-color aluminum panel and three-color meter with mirror scale. Has DC polarity switch and high sensitivity. **AC Volts:** 0–5, 15, 50, 150, 500, 1500 V rms. Accuracy, ±4%; sensitivity, 10K ohms/volt. **DC Volts:** 0–0.5, 1.5, 5, 15, 50, 150, 500, 1500 volts. Accuracy, ±3%; sensitivity, 100K ohms/volt (0.3 V, 33K ohms/volt). **Ohms:** 0–2K, 200K, 2 megs, 20 megohms. **DC Current:** 0–15 μA; 0–1.5, 15, 50, 150, 500 mA; 0–5 A. Accuracy, ±3%. **Decibels:** −20 dB to +55.5 dB. **Size:** 5¼″ w. x 2⅜″ d. x 7½″ h. Shipping Weight, 3 lbs.
Model WV-520A—Complete with test leads and two 1.5 volt batteries. Net Each.....**$59.50**

MODEL WV-529A "SERVICE-SPECIAL" VOM

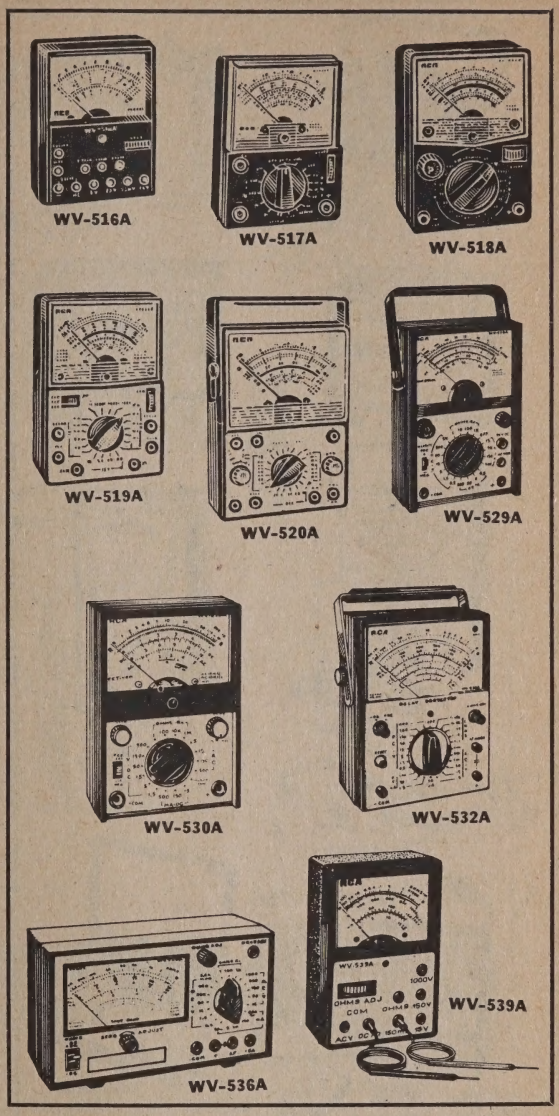
Ideal for technicians to service home or industrial electronic/electrical products including TV sets, radios, hi-fi equipment, tape recorders and electronic instrumentation. 3-color coded panel and meter face; taut-band meter movement with mirror scale (diode protected against burnout); high impact plastic case with recessed panel. **DC Volts:** 0 to 0.5, 1.5, 5, 15, 50, 500 and 5000 V. Accuracy, ±3%; input resistance, 20,000 ohms/volt. **AC Volts:** 0 to 15, 50, 150 and 500 V rms. Accuracy, ±4%; input resistance, 10,000 ohms/volt. **DC Current:** 0 to 0.5, 5, 50 and 500 mA. Accuracy, ±3%. **Resistance:** RX1, RX10, RX100, RX1K ohms (measures 1 ohm to 2 megohms). Accuracy, ±3%. **Decibels:** −10 to +25 dB. **Size:** 4¼″ w. x 2⅛″ d. x 6⅞″ h. Weight, 1 lb. 2 oz.
RCA Model WV-529A "Service Special" VOM—Complete with test leads, instruction book and a spare fuse. Net Each..**$53.50**

MODEL WV-530A FET VOM

Completely portable, battery operated VOM features an FET source-follower differential amplifier circuit for excellent stability. Includes polarity switch for measuring negative DC voltages without reversing the test leads. **DC Volts:** 0 to 1.5, 5, 15, 50, 150 and 500 V. Accuracy, ±3%. **AC Volts:** 0 to 5, 15, 150 and 500 V rms. Accuracy, ±4%. **DC Current:** 0 to 15, 150 and 500 mA. Accuracy, ±3%. **Resistance:** RX1, RX100, RX10K, RX1 megohm (10 ohm center scale). Accuracy, ±3%. **Power Required:** One 1.5 V penlite cell and one 9 V battery. **Size:** 3½″ w. x 2″ d. x 5⅛″ h. Weight, 14 oz.
RCA Model WV-530A FET VOM—Complete with test leads and instruction book. Batteries not included. Net Each....**$66.00**

MODEL WV-532A RELAY-PROTECTED VOM

High quality, precision VOM with special solid state relay circuit to prevent damage due to accidental overload. Large, easy-to-read 3-color meter with mirror scale. **DC Volts:** 0 to 0.5, 1.5, 5, 15, 50, 150, 500 and 1500 volts. Accuracy, ±2%; input resistance, 20,000 ohms/volt. **AC Volts:** 0 to 5, 15, 50, 150, 500 and 1500 V. Accuracy, ±3%; input resistance, 10,000 ohms/volt. **DC Current:** 0 to 50 μA, 1.5, 50, 500 mA. Accuracy, ±2%. **Decibels:** −20 to +15 dB (5 VAC); +15 to +25 dB (15 VAC); +25.5 to +35.5 dB (50 VAC); +35 to +45 dB (150 VAC). Accuracy, ±3%. **Power Required:** Two 1.5 V "C" batteries; two 9 V batteries. **Size:** 5⅞″ w. x 2⅜″ d. x 7¾″ h. Weight, 2.8 lbs.
RCA Model WV-532A Relay-Protected VOM—Comes with test leads, batteries not included. Net Each.....**$99.95**



MODEL WV-536A "SHOP-SPECIAL" VOM

Specially designed with features and functions most needed for in-shop use, VOM comes with low-silhouette style and rugged diode-protected taut-band meter, with zero-center capability. Easy-to-read color-coded meter and panel. **DC Volts:** 0 to 0.5, 2.5, 15, 50, 250, 500, 1000 and 2500 volts. Accuracy, ±3%; input resistance, 30,000 ohms/volt. **AC Volts:** 0 to 15, 50, 150, 500 and 1000 V rms. Accuracy, ±4%; input resistance, 10,000 ohms/volt. **DC Current:** 0 to 50 μA, 5, 50, 150, 500 mA, 5 amps. Accuracy, ±3%. **Resistance:** RX1, RX100, RX1K (measures 1 ohm to over 1 megohm). **Decibels:** −20 to +25 dB (15 VAC); −9.5 to +35.5 dB (50 VAC); 0 to +45 dB (150 VAC); ±10.5 to +55.5 dB (500 VAC); +17 to +62 dB (1000 VAC). **Power Required:** One 1.5 volt "C" cell. **Size:** 7¾″ w. x 3″ d. x 4¼″ h. Weight, 1 lb. 11 oz.
RCA Model WV-536A "Shop-Special" VOM—Complete with test leads and replacement fuse wire. Batteries not included. Net Each.....**$49.90**

MODEL WV-539A HANDYMAN VOM

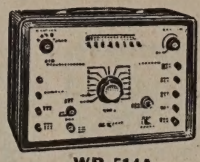
Rugged, easy-to-use, portable pocket size tester with hundreds of home uses comes with precision 1% resistors for accurate readings. Color-coded meter scales and panel. **DC Volts:** 0 to 15, 150 and 1000 V. **AC Volts:** 0 to 15, 150 and 1000 V. **DC Current:** 0 to 150 mA. **Resistance:** RX1K (measures 100 ohms to 100K ohms). **Sensitivity:** 1000 ohms/volt AC/DC. **Power Required:** One 1.5 volt penlite cell. **Size:** 2⅜″ w. x 1⅜″ d. x 3⅝″ h. Weight, 5 oz.
RCA Model WV-539A Handyman VOM—With test probes and basic electrical measuring instructions. Batteries not included. Net Each.....**$9.95**

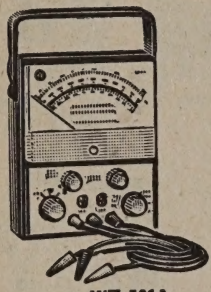
RCA Quality Test Equipment

WR-538A

WR-525A

WR-99A


WR-514A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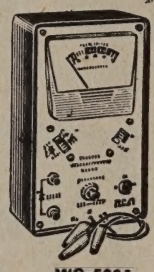
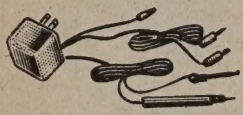
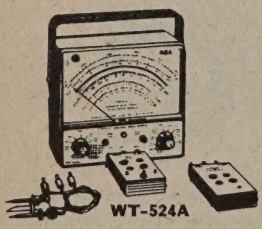

WC-506A


WC-528A

WT-509A


WT-524A

MODEL WR-538A SUPER CHRO-BAR COLOR BAR GENERATOR

Solid state instrument provides color-bars (with markers), cross-hatch, dot and blank raster patterns necessary for adjusting convergence, color phasing, purity and linearity of TV receivers. All digital IC circuits. Color bar marker on 3rd, 6th and 9th bars provides positive bar identification. "Superpulse" pattern with adjustable "superpulse sync" control permits fast check of receiver sync performance. Simple-to-use one-step pattern selector. Includes 75-ohm BNC output cable with snap-on head for 300 ohms. No counter alignment controls—all signals are derived from stable crystal-controlled oscillators. RF output is provided on channel 3; can also be operated on channel 4 by changing the crystal. **Temperature Range:** +5° F to +145° F. **Power Required:** 120 VAC (±30 VAC), 60 Hz, 3 watts. **Size:** 7″ w. x 3¾″ d. x 6½″ h. Weight, 4 lbs.
RCA Model WR-538A Color Bar Generator—Net....**$129.95**

MODEL WR-525A MARKER/SIGNALYST

Model WR-525A is an RF generator that provides output at the picture carrier frequencies of all 12 VHF TV channels, with harmonic output in the UHF range. Output frequency is continuously tunable in two ranges. When used with a sweep generator, unit provides picture-carrier markers on all VHF channels. When used with an oscillator, unit provides sound carrier markers. External signals up to 4.5 MHz can be used to modulate RF output of the unit; hence used for many applications in TV servicing. **Power Required:** 9 volts (battery or DC supply). **Size:** 4½″ w. x 3″ d. x 3½″ h. Weight, 18 oz.
RCA Model WR-525A Marker/Signalyst—Comes with plug for connecting external power supply. Battery not included.
Net Each.....**$49.00**

MODEL WR-99A MARKER GENERATOR

Crystal calibrated generator; supplies fundamental frequency RF carrier for aligning and trouble-shooting color and black-and-white TV receivers, FM receivers, and other electronic equipment operating in the 19–260 MHz range. Built-in 4.5 MHz crystal calibrator, heterodyne detector, amplifier and speaker provide calibrating beats at 1 MHz or 10 MHz intervals through entire tuning range in eight bands. At least 0.1 V output, into 90 ohms terminated; special modulation input for re-transmission; dual markers for bandwidth checks, RF alignment; triple markers for sound IF alignment and bandwidth checks. **Size:** 13½″ w. x 7″ d. x 10″ h. Weight, 17 lbs.
Model WR-99A—With output cable, 1 red and 1 black phone tip, instruction book. Net Each.....**$299.00**

MODEL WR-514A SWEEP CHANALYST

Offers the combined features of a sweep generator, marker generator and a marker adder. RF, IF, video and ChromAlign output sweep signals permit alignment of VHF tuners, IF amplifiers, video amplifiers and color bandpass amplifiers. **Size:** 13⅜″ w. x 7″ d. x 10″ h. Net Weight, 17 lbs.
Model WR-514A—With one RF output and three direct cables; connector, 75-ohm and two direct cable adapters, instruction book. Net Each.....**$399.00**

MODEL WT-501A IN-CIRCUIT/ OUT-OF-CIRCUIT TRANSISTOR TESTER

Completely portable and requiring no external power source, RCA's WT-501A tests transistors both in-circuit and out-of-circuit, tests both low and high power transistors, and has both NPN and PNP sockets to allow convenient transistor matching for complementary symmetry applications. Tests out-of-circuit transistors for DC beta from 1 to 1000, collector-to-base leakage as low as 2 μA, and collector-to-emitter leakage from 20 μA to 1 amp. Special low-impedance circuitry assures reliable in-circuit testing. Collector current is adjustable from 20 μA to 1 amp in four ranges, permitting most transistors to be tested at rated current level. A complete DC forward current, transfer ratio curve can be plotted. **Size:** 5¼″ w. x 3⅛″ d. x 6⅞″ h. Weight, 2¾ lbs.
Model WT-501A—Net Each.....**$90.00**
Model WG-414A Clip-On Probes—Set of 3, for use with WT-501A. Special clip-on connectors and thin flexible shafts for connection to transistor elements on circuit boards. Net Each.....**$13.50**

MODEL WC-528A QUICKTRACER

May be used with any general purpose 'scope to make rapid point-to-point checks of transistors (excluding FETs), zener diodes and other diodes, capacitors and resistors. Quicktrace waveforms indicate at a glance whether the component under test is functioning properly. Facilitates rapid checking of in-circuit and out-of-circuit transistors (except FET's). Complete operating instructions and special book on transistor testing, showing typical waveforms for both transistors and other circuit components.
Model WC-528A—Net Each.....**$14.75**
Model WC-528B—Same as above, but comes with special "stick-on" fastening material for mounting unit on side of oscilloscope, workbench, wall or other smooth surfaces. Net Each...**$19.50**

MODEL WC-506A TRANSISTOR/DIODE CHECKER

A compact, battery-operated instrument providing quick, simple checks of relative gain and leakage levels of out-of-circuit transistors. Tests NPN and PNP types. Panel switch provides checking high-leakage transistors, such as most germanium power types. Includes a transistor socket, color coded test leads, and a large, easy-to-read meter with a single red-green scale. Checks relative front-to-back current ratio of diodes by connecting to special spring terminals on the panel. MOS and FET type transistors cannot be checked with the WC-506A. Power supplied by two 1.5 volt penlite batteries. **Size:** 3¼″ x 2″ x 6¼″ h. Weight, 14 ounces.
Model WC-506A—Less batteries. Net Each.....**$19.95**

MODEL WT-509A PICTURE TUBE TESTER

Tests both color and black and white picture tubes for emission quality, interelectrode leakage and shorted elements. Complete solid state circuitry includes a triac device for controlling internal voltages. Tests more than 1,000 picture tube types. Supplied with 5 socket adapters, including "universal" adapter.
Model WT-509A—Net Each.....**$110.00**

MODEL WT-524A DYNAMIC TRANSISTOR/FET TESTER

High quality precision instrument designed for use in industrial applications, electronic labs and service shops. Provides an accurate and reliable AC beta test for all bipolar transistors, including Darlington types and dual transistors. Transconductance tests for all FETs, including depletion or enhancement types, n-channel or p-channel types, dual types and dual gate types. Can also check diodes, SCRs, triacs and unijunction transistors. Devices can be tested either in-circuit or out-of-circuit. Other measurements include zero-bias drain current and DC drain current up to 20 mA, and out-of-circuit gate leakage. Special control is provided to establish the drain current up to 20 mA. Bipolar transistors are tested for AC beta from 0 to 1,000 in two ranges. Special "Beta X 50" function is provided for testing Darlington and power Darlington devices with beta gain up to 5000. Instrument also measures collector-to-base leakage up to 100 μA and collector-to-emitter leakage up to 200 mA. Large easy-to-read 6½″ mirrored-scale meter. **Power Required:** 120–240 VAC, 50–60 Hz. 120–240 VAC internal switch and 3-wire power cord is provided. **Size:** 7″ w. x 4¼″ d. x 6½″ h. Weight, 5 lbs. 12 oz. (including accessories).
RCA Model WT-524A Dynamic Transistor/FET Tester—Supplied with two universal socket adapters, three test leads with special color-coded connectors. Net Each.....**$159.00**

RCA Quality Test Equipment

MODEL WE-130A SOUND LEVEL METER

Simple to operate—no range switches, dials or other complicated controls. Indicates whether sound levels exceed limits specified by the Walsh-Healey Act and other applicable laws. **Sound Level Range:** 70–85 dBA green scale area indicates safe sound levels; 85–90 dBA yellow area indicates possibly unsafe levels; 90–110 dBA red area indicates possible "danger". **Meter Frequency Response:** "A" weighted. **Microphone:** Omnidirectional ceramic element. **Meter Response Time:** Slow. **Accuracy:** ±1 dB, 50° F to 90° F; ±2 dB, 32° F to 50° F, 90° F to 110° F. **Size:** 3″ w. x 1 5/16″ d. x 6 7/8″ l. Weight, 11¼ oz.

Model WE-130A—With leatherette carrying case with belt loop and shoulder strap, lanyard, four 1.5-V penlite batteries, instruction book. Net Each.....**$90.00**

MODEL WO-33A 3″ OSCILLOSCOPE

Compact three-inch 'scope that handles all black-and-white or color TV servicing problems. Increased gain and bandwidth enables it to be used in PA, radio, TV, broadcast, ham radio, Hi-Fi, laboratory and industrial applications. **Vertical Amplifier Sensitivity:** Wide band, 100 rms mV/inch; narrow band, 3 rms mV/inch. **Vertical Amplifier Bandwidth:** Wide band, within −3 dB, 5.5 Hz to 5.5 MHz; narrow band within −3 dB, 20 Hz to 150 kHz. **Sweep Circuit:** Sawtooth range, 15 Hz–75 kHz; sync, external, ±internal; line sweep, 160° adjustable phase; sync range, to 4.5 MHz. Vertical circuit impedance at Low-Cap cable input, 10 megs, 10 pF (approx.). **Power Required:** 105–125 VAC, 50–60 Hz, 50 watts. **Size:** 6½″ w. x 10¼″ d. x 8¾″ h. Weight, 14 lbs.

Model WO-33A—With Direct/Low capacitance probe and cable, instruction book. Net Each.....**$229.00**

MODEL WO-535A 5″ DUAL MODE OSCILLOSCOPE

General purpose CRO with regulated power supply can be operated on trigger or recurrent sweep. Includes blanking, vertical polarity reversal, preset TV "V" and "H" frequencies, line sweep and phase control, direct connections to CRT, and illuminated screen. **Frequency Response:** DC to 10 MHz for DC function, 5 Hz to 10 MHz for AC function on vert. amp.; 3.5 Hz to 2 MHz on horizontal amp. **Vertical Amplifier Deflection Sensitivity:** Direct Probe, 15 mV P-P/in; low cap. probe, 150 mV P-P/in. **Rise Time:** 35 nsec for vertical amplifier. **Trigger Mode Frequency Range:** 5 Hz to 1 MHz in 6 adjustable ranges. **Trigger Sensitivity:** 5 mV. **Power Required:** 105–130 VAC, 50/60 Hz, with 30 W avg. power. **Size:** 9″ w. x 16½″ d. x 11⅜″ h. Weight, 25 lbs.

Model WO-535A—With Direct/Low capacitance probe and cable, and instruction book. Net Each.....**$349.00**

MODEL WO-505A 5″ OSCILLOSCOPE

Model WO-505A—Same as above, but without trigger sweep. Frequency Response, ±1 dB, DC to 5 MHz; flat vert. amp. Size, 9″ w. x 15½″ d. x 11⅜″ h. With Direct/Low cap. probe and cable, alligator clip, clip insulator, instruction book. Net Ea..**$329.00**

MODEL WA-44C SINE/SQUARE WAVE GENERATOR

Compact design for testing electronic equipment and other uses requiring a sine or square wave audio-frequency signal. Operates from any 105–125 VAC, 50–60 Hz source. Covers 20–200,000 Hz in four bands. A "bridged-T" oscillator circuit with cathode follower output stage provides the sine-wave function. Attenuator, clipper and cathode follower circuits produce the square wave output. Signals are stable with an amplitude variation of not more than ±1.5 dB. Harmonic distortion limited to 0.5% over 30–15,000 Hz range. Can be used with high or low impedance circuits. **Size:** 10 1/16″ w. x 6⅛″ d. x 7″ h. Weight, 10½ lbs.

Model WA-44C—With instruction book. Net Each....**$99.95**

MODEL WA-504A SINE/SQUARE WAVE GENERATOR

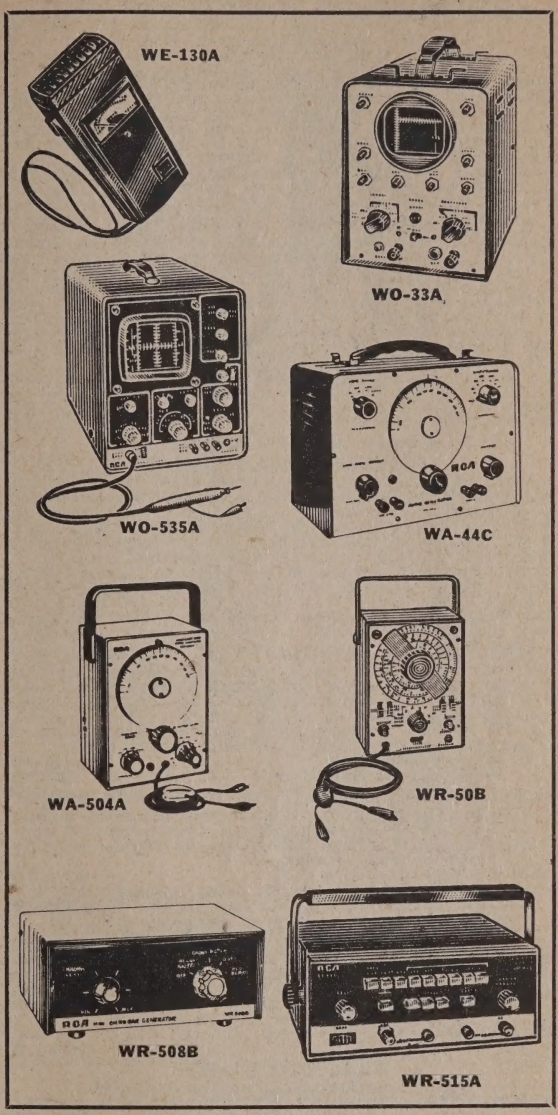
Transistorized audio generator provides tunable sine or square wave audio frequency signal ideal for service, industrial, lab and educational applications. Frequency range extends from 20 Hz to 200,000 Hz. Solid state circuit uses six transistors and two diodes to produce a stable signal with amplitude variation not exceeding ±1.5 dB. Total harmonic distortion of sine wave is less than 0.25%. Has simple, one-scale dial, and switch selection of sine or square wave output and range of output level. **Size:** 5⅜″ w. x 4¾″ d. x 7¾″ h. Wt., 3 lbs. With attached shielded output cable.

Model WA-504A—Instruction book. Net Each.....**$99.95**

MODEL WR-50B RF SIGNAL GENERATOR WITH SWEEP FEATURES

Designed for maintenance, troubleshooting and instructional purposes, this versatile unit provides an accurate source of CW or amplitude-modulated signals in the fundamental 85-kHz-to-40-MHz range. Well suited for aligning and signal tracing AM, FM, hi-fi and CB and amateur receivers, plus many TV service applications. Sweep output at 10.7 MHz and 455 kHz with return trace blanking for sweep alignment of radio receivers. Also has: Built-in crystal-calibrating oscillator circuit with front-panel crystal socket; built-in DC blocking capacitors; two-step RF attenuator switch plus continuously variable attenuator control; additional switch for further attenuation of crystal-oscillator output; easy-to-read dial scale with vernier tuning. **Size:** 5⅜″ w. x 4¼″ d. x 7¾″ h. Weight, 5 lbs.

Model WR-50B—With attached shielded RF output cable with built-in DC blocking capacitors, instruction book. Net..**$89.90**



MODEL WR-508B MINI-CHRO-BAR GENERATOR

Portable, battery operated color bar generator provides ten color bars simultaneously in the color bar pattern, including R-Y, B-Y, G-Y, I and Q signals; dot, crosshatch and blank raster patterns. Crystal controlled solid state circuitry specially designed to provide stable patterns with no flicker. Color bars are so generated that the background between bars is at an elevated illuminance, permitting simple AFPC alignment check without an oscilloscope. AC or battery operation (battery not included). **Size:** 6½″ w. x 4″ d. x 3″ h. Weight, 19.5 oz.

RCA Model WR-508B Color Bar Generator—With holding brackets for AC power cord and RF cable, instruction book. Net Each.....**$89.90**

MODEL WR-515A MASTER CHRO-BAR/SIGNALYST

Digital IC circuits provides excellent pattern, stability; no counter alignment controls to adjust. Output at RF, IF and video on all patterns for TV servicing. Video output is adjustable up to 2 V across 75 ohms for use in CCTV, CATV and MATV. Provides test signals required for adjusting convergence, color-phasing, gray-scale tracking, purity and linearity of color television receivers. Patterns include bars, dots, crosshatch, horizontal and vertical lines and blank raster. Includes convenient "bar-marker" to identify 3rd, 6th and 9th color bars. Vertical and horizontal patterns can be selected in groups of three or ten lines. Vertical line and dot brightness are adjustable. Output for all test signals is provided at RF (chan. 3; chan. 4 by replacing a crystal), IF and video. Exclusive RCA pattern called "Superpulse" provides a white rectangle horizontally centered on screen. Temperature range of 75° F ± 70° F. **Power Required:** 5 W, 120 VAC ±30 V, 60 Hz. **Size:** 10″ w. x 8″ d. x 4″ h. Weight, 6 lbs.

Model WR-515A—With shielded cable with BNC connectors, direct adapter, matching 300-ohm transformer, gun-killer cable, instruction booklets. Net Each.....**$195.00**

MODEL WT-333A OR CR III COLOR/B&W CRT TESTER/REJUVENATOR

Includes unique "SIMUL-TEST" 3-meter system that tests red, blue and green color guns simultaneously. All tests designed to closely simulate picture tube operation in an actual receiver. Features effective 3-step rejuvenation function and a newly designed "no-delay" shorts removal function. Can also test heater to cathode leakage. Continuously variable, metered heater voltage for "brightness test", "life test", and other marginal performance tests. Functional modern design featuring sequential pushbutton test procedures. Tests over 1800 TV picture tubes. **Power Required:** 108–132 VAC, 50–60 Hz. Weight, 9 lbs.

RCA Model WT-333A CRT Tester/Rejuvenator—Comes with four additional socket adapters for use with black-and-white tubes and with color tubes where required. Net Each...**$199.00**

MODELS WP-25A AND WP-26A TV ISOTAPS

Speeds up servicing, prevents damage to test equipment, minimizes shock hazard and cuts down costly returns. WP-25A, may be used as a high-medium-low voltage isolation transformer or as an autotransformer for testing radio and TV receivers at various setting of line voltage. WP-26A, may be used with color TV receivers. **Output:** 130, 115 and 105 VAC at max. load and are tapped to match line voltage from 105 to 130 V in six steps. **Max. Load Ratings:** Cont. operation, direct receptacles 500 VA; isolation receptacles 275 VA for WP-25A and 400 VA for WP-26A. Intermittent operation, direct receptacles 750 VA; isolated receptacles 450 VA for WP-25A and 650 VA for WP-26A.

Model WP-25A—Net Each.....**$37.50**
Model WP-26A—Net Each.....**52.50**

MODEL WP-27A ISOTAP II ISOLATION TRANSFORMER

Designed for use as an adjustable isolation transformer to facilitate testing of electronic equipment, such as transformerless radios and TV receivers. AC output from 25 to 150 volt in 5-volt increments provided through a polarized-type receptacle that accommodates a standard two-prong male power-cord plug. Primary-to-secondary leakage is less than 0.1 mA much lower than required in ANSI spec. C-101.1 1971. Convenient test points to monitor output voltage with an external voltmeter. **Power Required:** 105–130 VAC, 50–60 Hz. **Size:** 5″ w. x 4⅜″ d. x 5¾″ h. Weight, 16 lbs.

RCA Model WP-27A Isolation Transformer—Comes with 3-line power cord and 3-prong socket adapter. Net Each.....**$60.00**

MODEL WP-700A REGULATED DC POWER SUPPLY

Solid state power supply ideal for use in circuit design, servicing, industrial and educational applications. Output continuously adjustable 0 to 20 V; current levels up to 200 mA. Circuit automatically limits current to prevent damage due to overload. Negative feedback regulator circuit maintains constant output voltage with low ripple. Overload indicator lamp on panel.

Model WP-700A—Net Each.....**$48.00**
Model WP-702A Dual Power Supply—Net Each.....**99.00**

MODEL WP-703A REGULATED DC POWER SUPPLY

Solid state power supply offers continuously adjustable output, 0 to 20 V at current levels up to 500 mA. Overload current automatically limited to prevent damage. Special overload indicator lamp. Three-way output terminals.

Model WP-703A—Net Each.....**$75.00**
Model WP-704A—Same, but output voltage adjustable 0 to 40 V at current levels up to 250 mA. Net Each.....**$75.00**

MODEL WC-412A R-C CIRCUIT BOX

Provides a convenient selection of standard resistors and capacitor values available either separately or in series or parallel RC combinations. Tests 36 resistors in standard values from 15 ohms to 10 megs (1 watt power rating, ±10% tolerance); 18 capacitors from 100 pF to 0.22 μF (600 V rating, ±10% tolerance). **Size:** 6⅞″ w. x 2⅜″ d. x 5⅜″ h. Weight, 1 lb. 12 oz. approx.

Model WC-412A—With plug-in test leads and alligator-clip connectors. Net Each.....**$39.00**

CARRYING CASES

Includes convenient storage compartment for test leads.

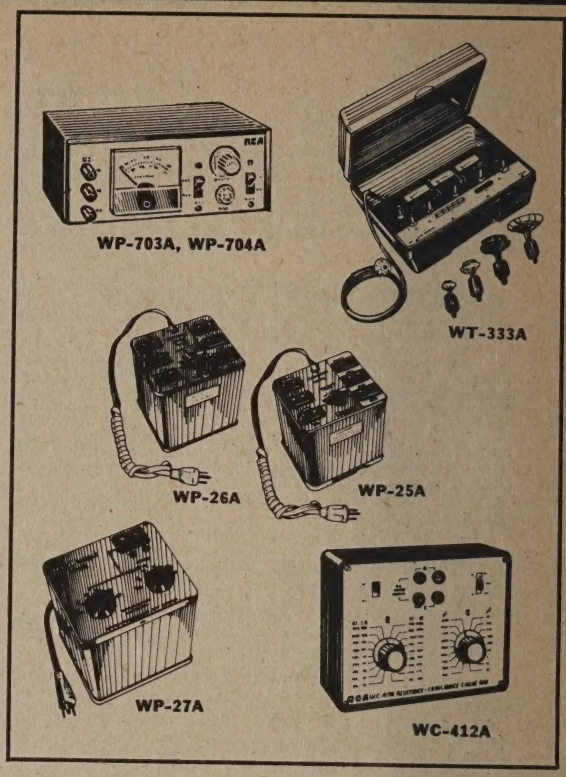
Model WG-461A—Carrying case for Models WV-519A and WV-529A. Net Each.....**$7.50**
Model WG-447A—For Models WV-516A/517A/518A. Net Each.....**5.75**
Model WG-453A—For Model WV-520A. Net Each.....**7.50**

DC/AC-OHMS PROBES AND CABLES

Model WG-277A—Set of 3 with banana plugs; ground cable with alligator clip. Net Each.....**$7.50**
Model WG-299E—DC/AC-Ohms probe and cable for Models WV-97 and WV-98. Net Each.....**$12.00**
Model WG-401A—AC/DC probe and cable for Model WV-510A. Net Each.....**$11.25**
Model WG-410B—Shielded; tinned end leads. Net Each.....**12.00**
Model WG-445A—AC/DC/Ohms/Current probes and cables with banana plugs. Net Each.....**$4.50**

TEST PROBES FOR RCA 'SCOPES

Model WG-271A Adapter—For using Model WG-300B with WO-33A 'scope. Net Each.....**$2.75**
Model WG-300B Direct/Low Capacitance Probe—With cable and microphone connector. Net Each.....**$13.50**
Model WG-302B Slip-On RF/IF/VF Signal Tracing Probe—Use with Models WG-300B and WG-400A probe and cable for Model WO-505A 'scope. Net Each.....**$15.00**
Model WG-349A Direct/Low Capacitance Probe—With cable and miniature microphone connector; for WO-33A. Net Ea...**$7.50**
Model WG-350A RF Demodulator Probe—With cable and miniature microphone connector for WO-33A. Net Each.....**$6.00**
Model WG-354A Slip-On Capacitance-Type Voltage Divider Probe—Use with Model WG-300B to extend 'scope range of WO-505A to 5000 volts. Net Each.....**$12.50**
Model WG-400A Direct/Low Capacitance Probe—With cable and BNC male connector. Use with WO-505A and 'scopes having female BNC connector. Net Each.....**$10.50**
Model WG-409A Vectorprobe and Screen—For use with color bar generator and Models WO-33A and WO-505A. Net Each.**$6.00**



HIGH VOLTAGE PROBES AND RESISTORS

Model WG-206—1090-meg resistor; use with WG-297 and WG-411A. Net Each.....**$ 4.50**
Model WG-297—Probe with banana plug; less resistor. Net Each.....**18.00**
Model WG-210—900-meg resistor for above. Net Each..**4.50**
Model WG-211—495-meg resistor for above. Net Each..**4.50**
Model WG-408A—4950-meg resistor for above. Net Ea..**4.50**
Model WG-441A—1485-meg resistor for above. Net Ea..**4.50**
Model WG-442A—990-meg resistor for above. Net Ea...**4.50**
Model WG-411A—Slip-on HV probe; use **only** with WG-299E, WG-401A and WG-410B. Less resistor. Net Each.....**$18.00**
Model WG-436A—2079-meg resistor for WG-411A. Net.**4.50**
Model WG-289—High-voltage probe and cable with microphone type connector (less resistor). Net Each.....**$18.00**

PROBES FOR SWEEP ALIGNMENT

Model WG-426A—RF output cable (balanced 300 ohms) with special connector. Net Each.....**$11.25**
Model WG-427A—Coaxial cable (4 ft., 75 ohms) with two male BNC connectors. Net Each.....**$9.00**
Model WG-429A—VF/IF 75-ohm probe with female BNC connector. Net Each.....**$4.50**
Model WG-430A—VF/IF direct probe with female BNC connector. Net Each.....**$4.50**
Model WG-431A—General purpose RF demodulator probe with female BNC connector. Net Each.....**$12.75**
Model WG-433A—Mixer input adapter with female BNC connector. Net Each.....**$11.25**
Model WG-434A—Video/chroma bandpass detector with female BNC connector. Net Each.....**$15.00**
Model WG-435A—Link detector with "E-Z Hook" connectors and female BNC termination. Net Each.....**$16.00**

SPECIAL PURPOSE PROBES AND CABLES

Model WG-413A—General purpose test leads (22″) with standard ¼″ dual banana plugs. Net Each.....**$5.25**
Model WG-414A—Set of three special clip probes with banana plugs, long flexible shafts (yellow, blue, green cables). Net Each.....**$13.50**
Model WG-438A—Special adapter. Male BNC to male microphone connector. Net Each.....**$4.50**
Model WG-428A—Special adapter. Female BNC to female microphone connector. Net Each.....**$3.75**
Model WG-420A—General purpose probe kit. All parts for constructing high quality shielded probe with female BNC connector. Net Each.....**$9.00**

INSTRUMENTS THAT STAY ACCURATE

MODEL 408 PORTABLE ILLUMINATION LEVEL METER

Model 408 illumination level meter for a wide range of measurements of illumination intensity under natural and artificial lighting conditions. By use of an accessory tube, it can also measure luminance of self-luminous or illuminated by ambient light surfaces. It can also serve as exposure meter with an appropriate table. **Ranges:** 0–15/50/150/500 foot candles; 0–1500/5000/15000/50000 foot candles with x 100 slip-on extension filter. **Light Sensitive Element:** 1.8″ dia. selenium photocell corrected to eye response. **Luminance Measurement:** Using slip-on x 2 tube ranges, 0–300/1000/3000/10000 cd/m²; tube aperature, 1.52″ dia.; test area diameter, 1.7 times distance. **Scale:** Longest scale arc, 2.8″; shortest scale arc, 1.92″. **Accuracy:** ±5%. **Size:** 3.2″ w. x 1.6″ d. x 4.6″ h. Weight, .62 lb.

Simpson Model 408 Illumination Meter—With remote senser, filter x 100 range extension, tube for luminance measurement, high impact plastic carrying case and instruction manual. Net Each..... **$145.00**

MODEL 410 PORTABLE PHOTO TACHOMETER

Model 410 measures the speed of motors, generators, machines and rotating parts of all kinds up to maximum speed of 50,000 rpm without making contact with the rotating body. Horizontal working position. **Ranges:** 1500–5000–15000–50000 rpm. **Accuracy:** ±2.5% FS. **Operating Temperature:** 0 to 40° C. **Pick-Up Head Sensitivity:** From 0.2″ to 2″ with light marking on dark background or reverse; from 2″ to 12″ with reflective marking on non-reflective background or reverse. **Input Resistance:** Greater than 10,000 ohms. **Movement:** Core magnet movement with pivot spring loaded suspension. **Power Required:** Indicating instrument, one 9 volt battery; pick-up head, two 1.5 volt batteries. **Size:** Indicating instrument, 3.6″ w. x 1.77″ d. x 5.98″ h.; pick-up head, 1.42″ w. x 1.9″ d. x 8.0″ h. Weight, indicating instrument .9 lb. and pick-up head of .7 lb.

Simpson Model 410 Photo Tachometer—Complete with batteries and instruction manual. Net Each..... **$205.00**

MODEL 886 SOUND LEVEL METER

- **SETS THE PERFORMANCE STANDARDS FOR MEASURING NOISE AND SOUND LEVELS, INDOORS OR OUT**
- **MEETS O.S.H.A. AND WALSH-HEALY REQUIREMENTS**

Quickly, accurately measures noise (or sound level) anywhere in accordance with O.S.H.A. and Walsh-Healy requirements. Helps check PA installations, small auditoriums, industrial acoustics, outdoor speakers, municipal noise. Simple and easy to operate, this rugged instrument offers all solid state reliability. Has built-in tripod mount and optional safety wrist strap. Output jack permits use with recorders and analyzers. Rugged, calibrated ceramic microphone. Full coverage, 40 to 140 dB with A, B and C weightings. Conforms to ANSI standard S1.4-1971, Type 2. Comes complete with two 9-volt batteries which provide 50 hours operational life. **Sound Level Range:** 40–140 dB in 10 dB increments; 20 μNewtons/m² as 0 dB reference. **Weighting:** 3 selectable networks for A, B or C curves per ANSI S1.4, Type 2. **Accuracy:** Meets requirements of ANSI S1.4, Type 2. **Meter:** 0–100 μA full scale, taut band movement; 2½″ dial has end marks −5 dB to +10 dB. **Response Speed:** Selectable fast or slow modes as required by ANSI S1.4-1971, Type 2. **Output:** 1.2 V rms open circuit for full scale meter indication; source impedance, 620 ohms; connector is Switchcraft 850 min. phone jack. **Harmonic Distortion:** Less than 0.5% (0.1% typical), 32–8,000 Hz (C weighting, meter at full scale). **Calibration:** Adjustable with screwdriver from side of case; requires calibrated sound pressure source coupled to the mike. **Magnetic Field Influence:** 50 or 60 Hz field of 1 Oersted (80 A/meter) will cause approx. 45 dB indication with C weighting when meter is oriented for maximum sensitivity to the field. **Temperature Range:** −10° C to +50° C, operating; −40° C to +60° C, storage with batteries removed. **Temperature Coefficient of Sensitivity:** −0.01 dB/° C at full scale meter indication. **Humidity:** 0 to 90% RH, operating. **Power Required:** Two 9-volt batteries (Burgess 2U6 or equiv.) supplied. **Size:** 3.03″ w. x 1.87″ d. x 10.07″ h. molded high impact, gray plastic case; internally shielded with electronic circuit packaged on flexible PC board. Brass insert on case bottom threaded ¼″-20 for tripod. Weight, 1 lb., nominal.

Simpson Model 886 Sound Level Meter—With batteries and operator's manual. Net Each..... **$250.00**
Simpson Model 00217 Carrying Case—Net Each.... **34.20**
Simpson Model 00576 Safety Wrist Strap—Net Each. **3.00**

MODEL 890 SOUND LEVEL CALIBRATOR

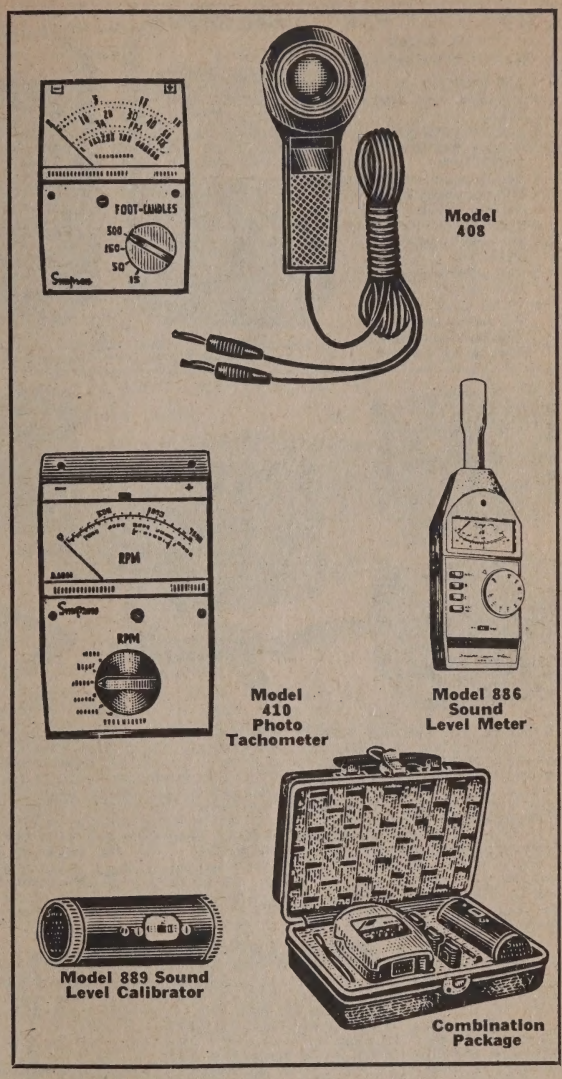
Sound level calibrator is used to calibrate the ceramic microphone on Model 886 Sound Level Meter. This tester is completely self-contained, features a single fumble-free control and yet provides a precise 1000 Hz sound-pressure level. Built-in LED indicator checks for adequate battery voltage. **Frequency:** 1000 Hz. **Pressure Level:** 114 dB ref. 20 μN/m². **Accuracy:** ±1 dB at 23° C and 760 mm mercury pressure. **Temperature Range:** 0 to +50° C operating. **Humidity:** 95% RH and +30° C. **Power:** 9-volt battery operation. **Size:** 5¼″ lg. x 2″ dia. Weight, 13.5 oz.

Simpson Model 890 Sound Level Calibrator—Complete with batteries, adjusting screwdriver and operator's manual. Net Each..... **$100.00**

SPECIAL COMBINATION PACKAGE

For increased convenience on and off locations for fast and accurate measurements. Includes one Model 886 sound level meter, one Model 890 calibrator, three spare 9 V batteries, one calibrator adjusting screwdriver and one wrist strap. Protective case included.

Simpson No. 12622 Combination Package—Net Each. **$380.00**



MODEL 884 SOUND LEVEL METER

Quickly and accurately measures noise (or sound level) anywhere in accordance with O.S.H.A. and Walsh-Healy requirements. Has built-in tripod mount and optional safety wrist strap. Output jack permits use with recorders and other testers. **Sound level range:** 50–130dB; **Weighting:** Type A per ANSI S1.4-1971 for Type 2; **Accuracy:** Meets requirements of ANSI S1.4-1971 for Type S2A; **Output:** 1.2V rms open circuit for full-scale meter indication, 100 ohms output impedance; **Size:** 3.03″ w. x 8.18″ h. x 1.87″ d.; **Weight:** 13.5 oz.

Simpson Model 884 Sound Level Meter—With batteries and operator's manual. Net Each..... **$195.00**

SPECIAL COMBINATION PACKAGE

Includes one Model 884 sound level meter, one Model 890 calibrator, microphone wind screen, three spare 9 V batteries, calibrator adjusting screwdriver, wrist strap, and operator's manual.

Simpson No. 12616 Combination Package—Net Each. **$300.00**

MODEL 888 OCTAVE BAND FILTER

A rugged, solid-state instrument for precision laboratory use or with the Simpson Model 886 Sound Level Meter by direct cable connection for octave band analysis of noise. Complies with ANSI S1.1-1971, DIN45651, and IEC255 (1966) requirements. Has bench-mount handle and in-the-field carrying case with shoulder strap; built-in LED battery test indication. **Center Frequencies:** 31.5, 63, 125, 250, 500, 1000, 2000, 4000, and 8000 Hz, switch selectable; **Filter Gain:** 0, +10, and +20dB, switch selectable with bypass provision; **Power Required:** Two 9 V batteries (Burgess 2U6 or equiv.) supplied; **Size:** 7.19″ d. x 6.01″ w. x 2.6″ h.; **Weight:** 2.6 lbs.

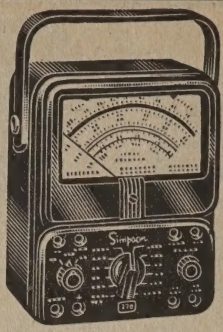
Simpson Model 888 Octave Band Filter—With batteries, carrying case, screwdriver, cable, and operator's manual. Net Each..... **$400.00**

Simpson Test Equipment, Cases

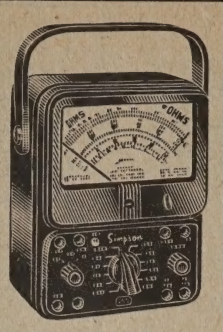
INSTRUMENTS THAT STAY ACCURATE

260® VOM'S WITH TAUT BAND METER MOVEMENT

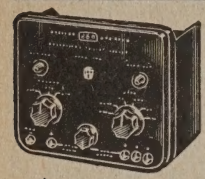
- **260 series 6**
- **260-6M with mirror scale**
- **260-6P with push-button overload protection**
- **261-2 with ±1.5% DC accuracy and mirror scale**
- **250 with 50 mV drop for solid-state circuits**
- **255 with temperature range**
- **270-4 with ±1.25% DC accuracy, temperature compensation, mirror scale**



260-6M, 261-2, 270-4 with Mirror Scale



260-6P with Pushbutton Overload Protection



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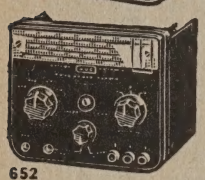

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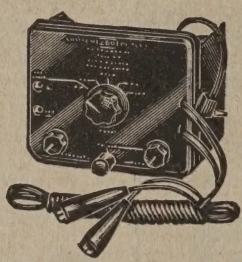


657

653, 661

150

Features: Self-shielding annular taut band meter movement; increased linearity and stability; input protected with internal 1-amp fuse; greater repeatability; mirror scale with a knife-edge pointer on three models. **Other Features:** Polarity reversing switch for easier, faster DC measurements; no lead reversing. Easy-to-read scales with black and red spread-out for faster, more positive reading. Less circuit loading; AC voltage range sensitivity of 5,000 ohms/volt. Adjust-A-Vue handle for prop-up convenience. Available in roll-top case. Come complete with leads and manual. **AC Volts (5,000 ohms/V):** 0–2.5–10–50–250–500–1000 volts (0.1 μF capacitor in series through 250 volts). **DC Volts (20,000 ohms/V):** 0–.25–1–2.5–10–50–500–1000 volts. **DC Current:** 0–50 μA (250 mV drop); 0–1–10–100–500 mA; 0–10 A (250 mV drop). **dB Scale (1 mW-600 ohms):** −20 to +10; −8 to +22; +6 to +36; +20 to +50. **Resistance:** 0–2K ohms–200K ohms–20 megs (Rx1–x100–x10K); 12, 1200 and 120K ohms centers, respectively. **Scale Length:** 4.2". **Size:** 5¼" x 7" x 3⅛". Shpg. Wt., 6 lbs.

260-6, 260-6M, 260-6P

Lowest priced models of the series, features good accuracy with full range coverage. Choice of scale: 260-6 comes with standard scale; 260-6M has mirror scale. **Accuracies:** AC volts ±3% F.S., 0–2.5 to 0–1000. DC volts ±2% F.S. through 1000. DC current ±1.5% F.S. through 50 μA; ±2% 0–1 mA to 0–10 A. Resist., ±2.5° of arc, Rx1; ±2.0°, Rx100 and Rx10,000.

Simpson 260-6—With standard scale. Net Each..... **$75.50***

Simpson 260-6M—With mirror scale. Net Each..... **78.50***

Simpson 260-6P—Same as 260-6, but features protective overload circuit with reset button that pops out when an overload is present. Net Each.... **$115.00***

MODEL 261-2 HIGH ACCURACY VOM

With mirror scale, knife-edge pointer and special calibration circuit to increase accuracy. Diode overload protection prevents movement burnout even on 200,000% overload. **Accuracies:** AC volts ±3% F.S., 0–2.5 to 0–1000; ±4% F.S., 0–5000. DC volts ±1.5% F.S. through 1000; ±2.5%, 0–5000. DC current ±1.0% F.S., 0–50 μA; ±1.5%, 0–1 mA to 0–10 amps. Resistance ±2.0° of arc, Rx1; ±1.5°, Rx100 and Rx10,000.

Simpson Model 261-2—Net Each..... **$85.50***

MODEL 270-4 HIGH ACCURACY VOM

Features self-shielded annular meter movement with taut band; temperature compensated circuitry. Mirror scale with knife-edge pointer. **Accuracies:** AC volts ±2.0% F.S., 0–2.5 to 0–1000. DC volts ±1.25% F.S. through 1000. DC current ±0.75% F.S., 0–50 μA; ±1.25% F.S., 0–1 mA to 0–10 amps. Resistance ±1.5° of arc, Rx1; ±1.0°, Rx100 and Rx10,000.

Simpson Model 270-4—Net Each..... **$95.00***

***For Roll-Top Case Version**—Add suffix **RT** (i.e., 260-6P**RT**). Add.... **9.50**

MODEL 250 50-mV DROP VOM

Same as 260-6 except as follows: **AC/DC Volts:** Added ranges of 0–0.050 VDC; 0–500 VAC/DC. **Current:** Same but 50 mV drop on all ranges, plus 250 mV drop on 0–50 μA range only (±1% F.S. accuracy). Diode protected.

Simpson Model 250—With standard scale. Net Each.... **$81.00**

MODEL 255 WIDE TEMP., 50-mV DROP VOM

Same as 260-6 except as follows: **AC/DC Volts:** Added 0–0.05 V and 0–1 VDC ranges. **Current:** 0–50 μA (50 and 250 mV drop; ±1% F.S. accuracy); 0–1–10–100–500 mA (50 mV drop); to 250 amps AC using adapter. No dB scale. **Temp. Range:** +100° F to +1050° F. With leads, prods and 5' thermocouple lead. Diode protected.

Simpson Model 255—With standard scale. Net Each..... **$95.00**

ACCESSORIES FOR ABOVE VOM'S

Model	Description	Net Each	Model	Description	Net Each
0248†	Roll-top case only	$15.25	0805	Ever-Redy vinyl case	$20.50
0507†	10 kV DC voltage probe	19.75	0549	Same, but with storage	23.25
0161†	10 kV AC voltage probe	22.00	0574	Snap-on probe case, 0549	7.00
0509†	30 kV DC voltage probe	22.00	0163‡	5' thermocouple lead	8.25
0505	5 kV AC safety probe	5.25	7500†	Banana plugs; allig. clips	4.25
0506	5 kV DC safety probe	5.25	7538†	Banana plugs; test prods	4.50
1818	Leather carrying case	16.75	0115	Leads, removable clips	5.25

†Also used with older 260-3 VOM. ‡For Model 255 only.

"ADD-A-TESTERS" 260 ADAPTER SERIES

Converts Simpson 260 VOM family (250, 255, 260, 261, 270-4) into nine different testers with a quality previously found only in individual pieces of test equipment. Just plug in one adapter, and you have added another application; no complicated connections. Take only ½ to ⅓ storage space of individual testers. Each combination of Add-A-Tester and 250, 255, 260, 261, 270-4 is self-contained and self-powered. All adapters provide for normal usage of basic tester without disconnecting adapter. Cannot be used with roll-top cased models.

MODEL 650 TRANSISTOR TESTER

Beta Ranges: 0–10–50–250, (F.S.). **Beta Accuracy:** Adapter, ±3%; with 250, 255 or 260, ±5% (nominal); with 261 or 270, ±4% (nominal). **Ico Range:** 0–100 μA. **Ico Accuracy:** Adapter, ±1%; with 260, ±3% (F.S.); with 261 or 270, ±2% (F.S.).

Simpson Model 650 Adapter—Net Each.. **$49.50**

Simpson Model 7545 Test Lead—Net Ea... **2.40**

MODEL 651 DC VTVM

Voltage Ranges: 0–.5/1.0/2.5/5.0/10/25/50/100/250/500. **Accuracy:** ±1%; with 250, 255 or 260, ±3% (F.S.); with 261 or 270, ±2% (F.S.). **Input Impedance:** More than 10 megs, all ranges.

Simpson Model 651 Adapter—Net Each.. **$55.00**

Simpson Model 733 Ground Lead—Net... **3.25**

MODEL 652 TEMPERATURE TESTER

Temperature Range: −50° F to +100° F; +100° F to +250° F. **Accuracy:** ±2° (nominal) with 250, 255, 260, 261 or 270. **Sensing Element:** Thermistor. Three lead positions provided.

Simpson Model 652 Adapter—Net Each.. **$55.00**

Centigrade Scale, add..... **1.95**

MODEL 653 AC AMMETER

Ranges: 0–0.25/1/2.5/12.5/25 amps. **Accuracy:** Adapter, ±2%; with 250, 255, 260, 261 or 270, ±3% F.S. **Frequency Range:** 50–3,000 Hz.

Simpson Model 653 Adapter—Net Each.. **$35.00**

MODEL 654 AUDIO WATTMETER

Load Ranges: 4, 8, 16, 600 ohms. **Wattage:** Continuous—25 watts (8, 600 ohms); 50 watts (4, 16 ohms). Intermittent—50 watts (8, 600 ohms); 100 watts (4, 16 ohms). **Accuracy:** Adapter, ±5%; with 250, 255 or 260, ±10% (nominal); with 261 or 270, ±7% (nominal). **Direct Reading Scale:** From 17 microwatts to 100 watts.

Simpson Model 654 Adapter—Net Each.. **$37.50**

MODEL 655 MICROVOLT ATTENUATOR

Ranges: 2.5 microvolts to 250,000 microvolts, continuously variable in decade steps. **Frequency:** DC to 20 kHz. **Accuracy:** Adapter, ± ½ dB; with 250, 255, 260, 261 or 270, ±1 dB.

Simpson Model 655 Adapter—Net Each.. **$33.00**

MODEL 656 BATTERY TESTER

Checks all radio and hearing aid batteries up to 90 volts at the manufacturer's recommended load, or any external load. **Accuracy:** Adapter, ±1%; with 250, 255 or 260, ±3% (F.S.); 261 or 270, ±2% (F.S.).

Simpson Model 656 Adapter—Net Each.. **$33.00**

MODEL 657 MILLIOHMMETER

Ideal for accurate measurements of low resistance windings in meters, generators and transformers; ammeter and milliammeter shunts; and contact resistance in switches and relays. **Ranges:** 0–0.1/0.25/0.5/1.0 ohm. **Accuracy:** Adapter, ±½%; with 260, ±2% (F.S.); with 261 or 270, ±1½% (F.S.).

Simpson Model 657 Adapter—Net Each.. **$57.50**

MODEL 661 DC AMMETER

Dependable, portable DC ammeter for use in testing automotive accessories and electrical systems, DC supplies, industrial DC control systems, welding, etc. **Range:** 0–1/2.5/5/10/25 amps. **Accuracy:** Adapter, ±½%; with 250, 255 or 260, ±2% (F.S., nominal); with 261 or 270, ±1½% (F.S., nominal).

Simpson Model 661 Adapter—Net Each.. **$35.00**

MODEL 150 CLAMP-ON AMMETER

AC ammeter adapter permits current measurement without breaking circuit. Plugs into any VOM on this page. Reads on 0–2.5 VAC scale. **Ranges:** 0–5–10–25–50–100–250 amps AC. With 4' cord.

Simpson Model 150—Net Each..... **$29.50**

METER SAFE/GUARD

Use with Series 1, 2, 3 or 4 Simpson 260 or any other 20,000 ohms/volt VOM. Installs instantly to prevent damage to meter movement regardless of polarity with currents up to 200 mA, AC or DC.

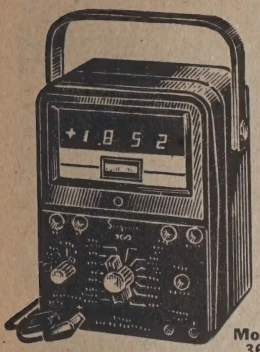
Simpson Model 12621—Net Each..... **$2.30**

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE

MODEL 360 PORTABLE DIGITAL VOM

• Unique Analog Output and Indication **• AC Line or Battery Operation**



Model 360

Solid state IC designed meter for high accuracy measurements. Measures AC and DC current and voltages, conventional and "low-power" ohmic resistance on 29 popular ranges including "low-power" ohms. Analog indicator for scanning of nulls and peaks; analog output for interfacing with chart recorders. Up down integration analog/digital conversion assures superior stability, accuracy and noise immunity. Adjust-A-Vue handle. RANGES: **DC Volts (Input Impedance):** 200 mV (100 megohms); 2 V (1000 megohms); 20 V (10 megohms); 200 V (10 megohms); 1000 V (10 megohms); with accuracy of ±(0.25% reading +1 digit). **AC Volts:** 200 mV; 2 V; 20 V; 200 V; 600 V; all ranges on 1 megohm (15 pF) input impedance and accuracy of ±(0.5% of reading +1 digit). **DC Current:** 20 μA; 200 μA; 2 mA; 20 mA; 200 mA; 2 A; 10 A; with accuracy of ±(0.5% of reading +1 digit). **AC Current:** 200 μA; 2 mA; 20 mA; 200 mA; 2 A; 10 A; with accuracy of ±(1.0% of reading +1 digit). **Resistance:** 200 ohms (low-power); 2K ohms (low-power); 20K ohms; 200K ohms; 2 megohms; 20 megohms.

SPECIFICATIONS: **Temperature Range:** Operating, 0 to +40° C; storage, −40° C to +60° C. **Numeric Display:** 3½ digit, 7-segment, 0.33″ high, LED type, non-blinking with storage. **Conversion Rate:** 5/sec nom. **Overrange Indication:** Automatic beyond 1999, with lower half of the "1" digit flashing. **DC Polarity Selection:** Automatic with "+" or "−" indications. **Analog Display:** 50–0–50 μA moving coil indicator. **Power Required:** 117/234 VAC, 50 to 400 Hz or 4 nickel cadmium "C" size cells (not supplied). **Size:** 5.4″ w. x 3.75″ d. x 7.2″ h. Weight, 4 lbs. (without batteries) and 4.5 (with batteries).

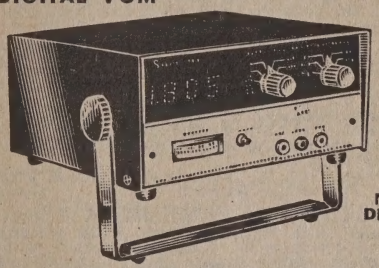
Simpson Model 360 Digital VOM—With test leads, AC line cord (less batteries) and operator's manual. Net Each..... **$325.00**

Simpson Model 360—220 VAC, 50 Hz operation (less batteries). Net Each..... **$330.00**

Simpson No. 00815—Carrying case for 360. Net Each **22.75**

MODEL 460 PORTABLE DIGITAL VOM

Combines high accuracy, multiple range testing with non-blinking 3½ digit numerical display and front panel analog meter readout. Ideal for field or lab use, operates on self contained batteries or line current. Batteries are rechargeable when plugged into AC line. Instant readout, no warm up time required; automatic + or − and overrange indication. Peaks and nulls shown by ½″ edgewise analog meter. Measures 26 switch-selected ranges; DC and AC voltage and current, and resistance. Unit is fused for AC line protection. Features include: Dual purpose handle, convenient line cord storage compartment and color-coded input jacks for instant visual recognition.



Model 460 Digital VOM

RANGES: **DC Volts:** 0–200 mV; 0–2–20–200–1000 V with ±0.1% reading accuracy, ±1 digit; input impedance, 10 megs except 200 mV, 100 megs and 2 V, 1000 megs. **AC Volts:** 0–200 mV; 0–2–20–200–1000 V with ±0.5% reading accuracy, ±1 digit; input impedance, 1 megohm; frequency range, 40 Hz to 10 kHz (±1% accuracy for 10 kHz to 20 kHz). **DC Current:** 0–200 μA; 0–2–20–200 mA (±0.2% reading accuracy, ±1 digit); 0–1000 mA (±0.5% accuracy); voltage drop, 0.2 V. **AC Current:** 0–200 μA; 0–2–20–200 mA (±0.7% reading accuracy, ±1 digit); 0–1000 mA (±1.0% accuracy); voltage drop, 0.2 V. **Resistance:** 0–200–2K–20K–200K–1000K ohms (±0.5% reading accuracy, ±1 digit); 0–20 megohms (±1% accuracy).

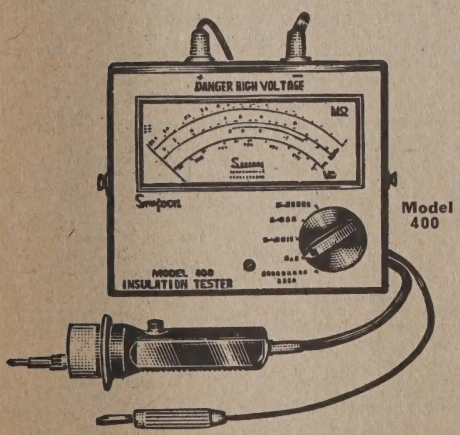
SPECIFICATIONS: **Temperature Range:** +10° C to +40° C. **Common Mode Rejection:** 80 dB min. at 60 Hz with 1K ohms unbalance. **Normal Mode Rejection:** 35 dB min. at 60 Hz. **Numeric Display:** 3½ digit, 7-segment, 0.56″ high, fluorescent type, non-blinking with storage. **Conversion Rate:** 5/sec. **Power Required:** 10 VA nom., 105–125 VAC, 50/60/400 Hz; 230 VAC available on order. For battery operation use 4 Ni-Cad "D" cells of 1.25 V each; 15 VA nom. when battery charging with unit on. **Size:** 8½″ w. x 7⅞″ d. x 4¼″ h. Wt., 6 lbs., 4 oz.

Simpson Model 460 Portable Digital VOM—Complete with instruction manual, less batteries. Net Each..... **$395.00**

Simpson Model 460-dB—Direct reading in decibels. Net Each..... **$000.00**

BATTERY OPERATED INSULATION TESTERS

MODEL 400 INSULATION TESTER

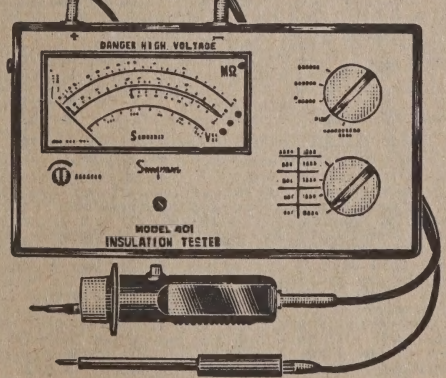


Model 400

Model 400 allows insulation measurements to be made on systems operating at up to 500 V. It also provides facilities for voltage measurements on DC and AC systems up to 600 V as well as continuity tests in low resistance circuits. Built-in indicator lamp in the test probe provides the check for insulation. Indicator lamp goes out whenever the insulation resistance is less than 1 milliohm. When continuity tests on low resistance circuits are being made, the indicator lamp in the test probe goes out for resistance of 500 ohms or less. **Accuracy:** ±1.5% FS. **Ranges:** 0 to 0.4 megohm; 0.01 to 5 megohms; 2 to 200 megohms; all ranges at open circuit voltage of 650 V and resistance of 0.15 megohm (0.25 megohm for 0 to 0.4 megohm range). **Voltage Scale:** 0 to 600 VAC/VDC with 0.2 megohm internal resistance. **Test Voltage:** 2000 volts. **Power Required:** 9 volts (six 1.5 volt batteries). **Size:** 4.6″ w. x 5.6″ d. x 3.2″ h. Weight, 3 lbs.

Simpson Model 400 Insulation Tester—Includes batteries, carrying strap, permanently attached connecting leads 3 ft. long with banana plug, test probe and instruction manual. Net.. **$195.00**

MODEL 401 INSULATION TESTER



Model 410

Model 401 is a battery operated instrument that tests the insulation resistance of equipment, electrical plants, etc. with voltage ratings up to 1000 VAC and 1500 VDC. It also measures AC/DC voltages up to 1000 volts and makes the continuity tests with optical indication.

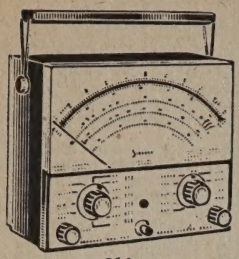
RANGES: **Test Voltage 100 V:** 0 to 0.08 megohm (0.05 megohm internal resistance); 0.02 to 1 megohm (0.03 megohm internal resistance); 0.4 to 40 megohms (0.03 megohm internal resistance). **Test Voltage 250 V:** 0 to 0.2 megohm (0.125 megohm internal resistance); 0.05 to 2.5 megohms (0.075 megohm internal resistance); 1 to 100 megohms (0.075 megohm internal resistance). **Test Voltage 500 V:** 0 to 0.4 megohm (0.25 megohm internal resistance); 0.01 to 5 megohms (0.15 megohm internal resistance); 2 to 200 megohms (0.15 megohm internal resistance). **Test Voltage 1000 V:** 0 to 0.8 megohm (0.5 megohm internal resistance); 0.2 to 10 megohms (0.3 megohm internal resistance); 4 to 400 megohms (0.3 megohm internal resistance). Test voltage ranges are on rated current of 1 mA.

Accuracy: Resistance ranges, ±1.5% FS; voltage ranges, ±1.5% FS. **Power Required:** 9 VDC (six 1.5 volt batteries). **Size:** 9.6″ w. x 4.13″ d. x 5.3″ h. Weight, 4.9 lbs.

Simpson Model 401 Insulation Tester—Includes batteries, carrying strap, permanently connected leads with test probe and operator's manual. Net Each..... **$395.00**

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE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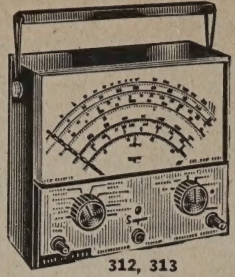
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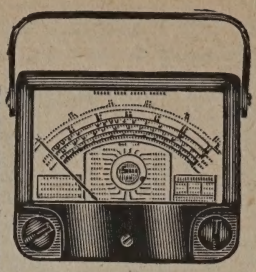
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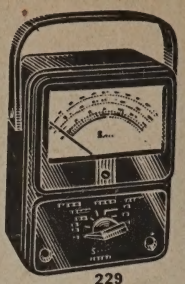
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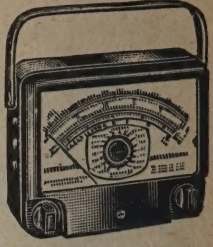

262-3, 269-3

MODEL 314 SOLID STATE AC-DC VOM

Most advanced solid state field effect VOM for general service use. Battery operated portable model accurately measures low-level voltages, current and semiconductor circuit resistances in low power ohms. **Accuracies:** ±2% of FS, DC; ±3% of FS, AC; ±3° arc, resistance. **AC Volts:** 0–0.01–0.03–0.1–0.3–1–3–10–30–100–300–1000; 10-meg input impedance; with probe multiplier on x10, 100-meg. **DC Volts:** 0–0.05–0.1–0.3–1–3–10–30–100–300–1000; 10-meg input impedance; with probe multiplier on x10, 100-meg. **Ohms:** Rx1, x10, x100, x1K, x10K, x100K, x1M; 10 ohms center and 1K ohms maximum on Rx1. **AC and DC Current:** 0–0.01–0.1–1–10–100–1000 mA; frequency response, 30 to 100,000 Hz shunted by 45 pF for AC; 100 mV voltage drop on all ranges except 1000 mA, 125 mV voltage drop. **dB:** −60 to +62 dB, eleven ranges. **Power Required:** One 1.5 "D" cell; two 1.5 V "AA" cells; one 9 V battery; all batteries replaceable through external access battery compartment at rear of instrument. **Size:** 7¼" x 6¾" x 4⅝". Weight, 5¼ lbs.

Simpson Model 314—With AC/DC ohms probe, batteries and instruction manual Net Each..... **$220.00**

MODEL 313 SOLID STATE AC-DC VOM

Portable instrument with VTVM features, VOM convenience. Operates for over 300 hours on 9-volt transistor battery, with high accuracy and high impedance. Rugged design with self-shielding movement, shock-proof and overload-protected. Fully protected voltage ranges. Reliable FET transistor input, 7" scale. Battery test position. Frequency and temperature compensation assure high accuracy of ±3% full-scale, AC and DC. **AC Volts:** 0–0.3–1–3–10–30–100–300–1000; 10-meg input impedance. **DC Volts:** 0–0.3–1–3–10–30–100–300–1000; 11-meg input impedance. **Response:** ±0.5 dB, 20 Hz to 100 kHz on ranges to 3 volts; 20 Hz to 20 kHz on ranges to 100 volts. **Ohms:** Rx1, x10, x100, x1K, x10K, x100K, x1M; 10-ohm center. **DC Current:** 0–0.1–1–10–100–1000 mA. **Size:** 7¾" x 6¾" x 3¼". Weight, 4¾ lbs.

Simpson Model 313—With leads, probe, manual. Net. **$155.00**

MODEL 312 VTVM

Up to 40% less circuit loading then conventional VTVM's; input resistance 16 megs instead of the usual 11. Easy-to-read 7" scale. Ideal for solid state tests with ½-volt range. **Accuracy:** ±3% FS, AC and DC; ±3° arc, resistance. **Frequency Response:** ±3%, 15 Hz to 3 MHz, thru 150 VAC; ±1 dB, 10 kHz to 250 MHz with RF probe; usable to 40 V rms. **DC Volts:** 0–0.5–1.5–5–15–50–150–500–1500 (16 megs imped.). **AC Volts:** 0–1.5–5–15–50–150–500–1500 V rms (1 meg min. imped.); 0–4–14–40–140–400–1400–4000 V p-p. **Resistance:** R x1, x10, x100, x1K, x10K, x100K, x1M; 10-ohm center. **Power:** 105/125 VAC, 50/60 Hz. **Size:** 7¾" w. x 6¾" h. x 3¼" d. Weight, 4¼ lbs.

Simpson Model 312—With probe and manual. Net.. **$120.00**

MODEL 263 AC-DC DUAL SENSITIVITY VOM

Overlapping ranges for greater accuracy; ±1½% DC and ±3% AC, full scale. Diode overload protection against burnout (even on 200,000% overload). External battery compartment for easy replacement; takes 1½-volt alkaline type for greater stability on low ohms scale. **AC Volts:** 0–2.5–7.5–30–150–750 at 10K ohms/volt; 0–5–15–60–300–1500 at 5K ohms/volt. **DC Volts:** 0–.15–.75–3–7.5–30–75–300–750–3000 at 20K ohms/volt; 0–.3–1.5–6–15–60–150–600–1500–6000 at 10K ohms/volt. **Output Ranges:** 0.1 μF capacitor in series thru 300 VAC. **Ohms:** 0–500–5K–50K–500K, 0–5–50 megs; 4.5 ohms center scale. **DC Current:** All ranges ±1½% accuracy. At 150 mV, 0–75 μA, 0–.75–7.5–75–750 mA and 0–7.5 amps; at 300 mV, 0–150 μA, 0–1.5–15–150 mA and 0–1.5–15 amps. **dB:** −20 to +75.5 dB, ten ranges. **Size:** 6" x 7¼" x 3". Net Weight, 4 lbs.

Simpson Model 263—With test leads; manual. Net... **$115.00**

MODEL 715 AC VTVM

High sensitivity VTVM for the audio field. **Accuracy:** ±5% of full scale. **Sensitivity:** 10 mV full scale on lowest range. **Frequency Response:** ±1 dB, 10–400,000 Hz. **Input Impedance:** 1 meg minimum at 1 kHz shunted by 25 pF. **Internal Multipliers:** ±1% precision resistors. **Volts:** 0–0.01–0.03–0.1–0.3–1–3–10–30–100–300 rms. **dB:** Total range, −52 to +52 dBm. **Zero dBm:** 1 mW in 600 ohms. **Scale:** −12 to +2 dB. **Input Power Required:** 110–125 V rms, 50–60 Hz at 10 watts. **Size:** 7½" x 5½" x 3". Wt., 3¾ lbs.

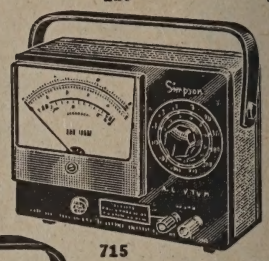
Simpson Model 715—Complete with manual and shielded input cable. Net Each..... **$97.50**

MODEL 229 AC LEAKAGE TESTER

Tests 120 and 240 VAC appliances and equipment for current above the human "threshold of perception". Measures as low as 5 μA, detects shorts and near shorts. Overload protection. **Ranges:** 0–0.3–1–3–10 mA; 0–150, 300 volts; battery test. **Accuracy:** ±2% at 60 Hz. **Input Impedance:** 1500 ohms, shunted by shaping network; 500K on voltage ranges. **Size:** 5¼" w. x 3⅛" d. x 7" h. Weight, 3 lbs.

Simpson Model 229—With test leads and manual. Net Each..... **$99.50**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE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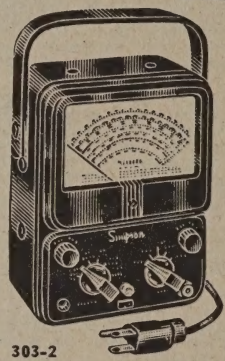
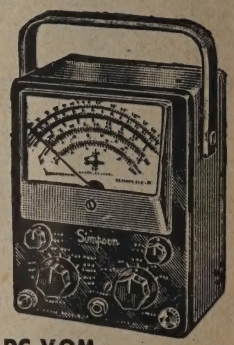

303-2


311-3

MODEL 262-3 AC-DC VOM

Compact design covers 33 ranges on easy-to-read 7" scale with repetitive accuracy. Diode overload protection. Self-shielded meter movement and spring-backed jewels. **AC Volts:** 0–3–8–40–160–400–800 at 5K ohms/volt and ±4% accuracy. **DC Volts:** 0–1.6–8–40–160–400–1600–4000 at 20K ohms/volt and ±3% accuracy. **Output Ranges:** 0.1 μF capacitor in series thru 160 VAC. **Ohms:** 0–500–5K–50K–500K; 0–5–50 megs; 4.5 ohms center scale. **DC Current:** ±3% accuracy, 0–80–160 μA; 0–1.6–16–160 mA; 0–1.6–8 amps. **dB:** −12 to +45.5 dB; four ranges. **Size:** 6" x 7¼" x 3". Net Weight, 4 lbs.

Simpson Model 262-3—With test leads; manual. Net.. **$99.00**

IMPROVED MODEL 269-3 AC-DC VOM

Self-shielded Taut-Band movement with spring-backed jewels; stops damage to pivots due to shock and vibration. External battery compartment for easy replacement. Input protected by 1.5-amp fuse. **AC Volts:** 0–3–8–40–160–400–800 at 5K ohms/volt and ±3% accuracy. **DC Volts:** 0–1.6–8–40–160–400–800–1600 (±2%)–4000(±3%) at 100K ohms/volt. **Output Ranges:** 0.1 μF capacitor in series thru 160 VAC. **Ohms:** 0–200–20K–200K; 0–2–20–200 megs; 12 ohms center scale. **DC Current:** ±2% accuracy 0–16–160 μA; 0–1.6–16–160 mA, 0–1.6–8 amps. **dB:** −12 to +45.5 dB; four ranges. **Size:** 6" x 7¼" x 3". Net Weight, 4 lbs.

Simpson Model 269-3—With test leads, 4000 VDC probe extension and manual. Net Each..... **$125.00**

MODEL 303-2 AC-DC VTVM

Features easy-to-read 4½" scale. **AC Volts:** 0–1.2–12–60–300–1200 (±5% FS). **DC Volts:** 0–1.2–12–60–300–1200 (±3% FS). **AF Volts:** 0–1.2–12–60. Frequency flat to 100 kHz on the three low AC ranges. **RF Volts:** 20 V max.; frequency 20 kHz to 100 MHz with RF probe. **Ohms:** 0–1K–100K; 0–1–10–1,000 megs (centers at 10, 1K, 10K, 100K and 10 megs, respectively). **dB:** −20 to +63; 5 ranges. **Input Power Required:** 105–125 VAC, 50–60 Hz. **Size:** 5¼" x 7" x 3½". Net Weight, 4 lbs.

Simpson Model 303-2—Complete with VDC probe, VAC-ohm probe, ground lead and manual. Net Each.. **$97.50**

Simpson Model 303-2RT—In roll top case. Net Ea.. **$104.50**

Simpson Model 303-2 Dual—For 220/110 volts. Net. **103.50**

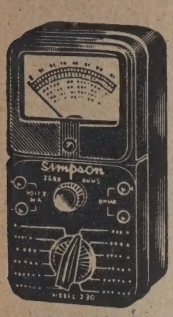
MODEL 311-3 AC-DC VTVM

High 22 meg DC input impedance reduces circuit loading. **AC Volts:** 0–1.5–5–15–50–150–500–1,500rms(±5% FS). **Peak-To-Peak Volts:** 0–4–14–40–140–400–1,400–4,000. **DC Volts:** Same ranges as AC (±3% FS). **AF Volts:** Same ranges as AC (30 Hz to 110 kHz, ±5%). **RF Volts:** 0–1.5–5–15–50–150 with probe (50 Hz to 100 MHz, 0–150 V rms). **Frequency Response:** ±5% to 100 kHz; to 250 MHz with probe. **Ohms:** 0–1K–10K–100K; 0–1–10–100–1,000 megs (centers at 10, 100, 1K, 10K, 100K, 1 meg and 10 megs, respectively). **Input Power Required:** 105–125 VAC, 50–60 Hz. **Size:** 7½" x 5⅜" x 4½". Weight, 5 lbs.

Simpson Model 311-3—With AC-DC ohms probe, ground lead and manual. Net Each..... **$97.50**

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE



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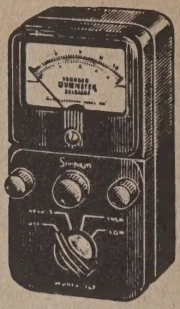

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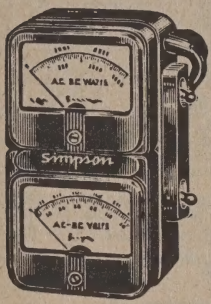

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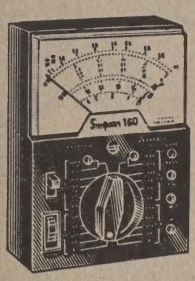
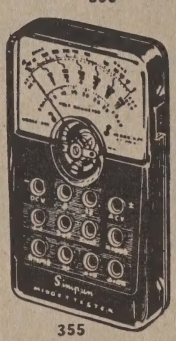
NEW... Improved Accuracy

160 Handi-VOM

Now ±2% DC and ±3% AC





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AC-DC VOLT-OHMMETERS

COMPACT MODEL 160 Handi-VOM

Small, lightweight model with sensitivity and range of full size VOM. Range selector and polarity reversing switches. Diode overload protection. **AC Volts:** 0–2.5–10–50–250–500–1000 at 5K ohms/volt. **DC Volts:** 0–.25–1.0–2.5–10–50–250–500–1000 at 20K ohms/volt. **Ohms:** 0–3000–30K–300K; 0–3–30 megs. **DC μA:** 0–50. **DC mA:** 0–1–10–100–500. **dB Scale:** −20 to +10; −8 to +22, +6 to +36, +20 to +50. **Accuracy:** ±3% FS, AC; ±2% FS, DC. **Size:** 4⅜" x 3⅜" x 1⅜". Net Wt., 12 oz.
Simpson Model 160—Complete with alligator clip leads and manual. Net Each..... **$65.00**

MODEL 355 MIDGETESTER®

Compact meter with 100 μA self-shielded core meter movement; 10,000 ohms/volt sensitivity. **AC Volts:** 0-3-12-60-300-1200. **DC Volts:** 0-3-12-60-300-1200. **Ohms:** 0-10K-100K; 0-1-10 megs., 120, 1.2K, 12K and 120K ohms center, respectively. **Accuracy:** ± 3% DC; ± 5% AC; ± 3° ohms. **Frequency Response:** Essentially flat to 10 kHz. **Movement:** Self-shielded core magnet permits use without interference from metals or magnetic fields. **Size:** 2¾" x 4½" x 1". Net Weight, 8 oz.
Simpson Model 355—Complete with leads and manual. Net Each..... **$55.00**

ACCESSORIES FOR TESTERS ON THIS PAGE

Model	For Instrument	Description	Net Ea.
2055	160	Probe tip lead	$4.00
8375	230-2, 240-4, 372	Allig. clips and elbow terms.	3.75
8376	Micro-Testers	Allig. clips and spade terms.	3.75
8379	Micro-Testers	Test prods and spade terminals	4.50
8381	230-2, 240-4, 372	Test prods and elbow terminals	4.50
8418	390	Test cord assembly	9.25
8600	355	Test prods	4.25
2225	160	Carrying case	12.75
3011	Micro-Testers*	Leatherette-covered case	10.50
3413	391, 392	Leatherette-covered case	14.00
4299	Micro-Testers*	Ever-Redy leather case	12.75
6355	355	Ever-Redy leather case	7.00
8073	387	Ever-Redy vinyl case	14.00

*Except Models 391 and 392.

SIMPSON MICRO-TESTERS

General purpose, extra-compact test instruments available in a variety of models. **Size:** 3" x 5⅞" x 2½". Net Wt., 1½ lbs.

MODEL 240-4 AC-DC VOLT-OHM-MILLIAMMETER

For high voltage applications. Sensitivity, 1,000 ohms/volt. **AC Volts:** 0-15-150-750-3000. **DC Volts:** 0-15-75-300-750-3000. **Ohms:** 0-3K-300K; 30 and 3K ohms center respectively. **DC Current:** 0–15–150–750 mA. **Accuracy:** VDC ±3% FS; VAC ±4% FS; DC resistance ±3° of linear arc.
Simpson Model 240-4—With leads and manual. Net Ea. **$49.50**

MODEL 230-2 AC-DC VOLT-OHM-MILLIAMMETER

For telephone and marine uses. **AC Volts:** (1000 ohms/volt) 0-10-250-1000. **DC Volts:** (1,000 ohms/volt) 0-10-50-250-1000. **Ohms:** 0-1K-100K. **DC Current:** 0-10-50-250 mA. **Accuracy:** VDC, ±3% FS; VAC, ±4% FS; DC resistance ±3° of linear arc.
Simpson Model 230-2—With leads and manual. Net Ea. **$49.50**

MODEL 370 AC AMMETER

Self-contained current transformer (use on 60 Hz only) and indicating instrument. **Ranges:** 0-1-2.5-5-10-25 amps. **Accuracy:** ± 5% of full scale.
Simpson Model 370—Net Each..... **$45.00**

MODEL 375 DC AMMETER

Covers a wide range without auxiliary shunts. Ideal for unmetered power supplies in radio and TV shops. **Ranges:** 0-1-2.5-5-10-25 amps. **Accuracy:** ± 3% of full scale.
Simpson Model 375—Net Each..... **$45.00**

MODEL 362 LOW-OHMMETER

Makes accurate checks on low-current circuits. Reads from 0.1 to 25 ohms across two ranges, 0-5 and 0-25. Accuracy within ±3° of linear arc length. Ideal for checking motor armatures and fields, switch and relay contact resistances, industrial electrical equipment, shorts in TV and radio chassis wiring, between generator windings and grounds, etc. Draws only 5 mA for long battery life; uses 1½-volt flashlight batteries.
Simpson Model 362-2—Complete with calibrated test leads. Net Each..... **$47.50**

MODEL 372-2 OHMMETER

Features a wide range of measurements from 0.2 ohm to 50 megohms in six ranges. **Ranges:** 0-500-5K-50K-500K ohms; 0-5-50 megs. Center scale values: 5, 50, 500, 5K, 50K, 500K ohms. **Accuracy** ±3° of linear arc.
Simpson Model 372-2—Complete with test leads and manual. Net Each..... **$47.50**

MODELS 391 AND 392 AC-DC VOLT-WATTMETERS

For simultaneous readings of AC or DC volts and watts. Two separate 3" square meters; built-in cord and plug for connection to line outlet; separate toggle switches for range selection. **Volts:** 0–130–260. **Watts:** 0–1500–3000, 391; 0–1000–5000, 392. **Accuracy:** ±3% of full scale. With cord, plug and manual.
Simpson Model 391 AC-DC Volt-Wattmeter—Net Ea. **$79.50**
Simpson Model 392 AC-DC Volt-Wattmeter—Similar to Model 391 except watt ranges: 0-1000-5000. Net Each. **$90.00**

MODEL 390 AC VOLT-AMP-WATTMETER

Most popular tester for measuring AC/DC volts, AC amps and AC watts on one meter. Wide coverage permits servicing nearly any appliance. Rugged design. **Volts:** 0-150-300. **Amps:** 0-3-15. **Watts:** 0–300–600–1500–3000. **Accuracy:** ±3% of full scale.
Simpson Model 390—Complete with break-in plug, test leads and manual. Net Each..... **$90.00**

MODEL 371 AC VOLTMETER

For testing line voltages applied to motors, heating equipment and other industrial uses. **Ranges:** 0-150-300-600 volts. **Accuracy:** ±3% of full scale.
Simpson Model 371—Net Each..... **$45.00**

MODEL 376 AC VOLTMETER

Rectifier type, 1000 ohms/volt. Useful where limited current occurs in circuit. Ideal as output meter when used with proper capacitor. **Ranges:** 0-5-10-25-50-100-250-500-1000 volts. **Accuracy:** ±5% of full scale.
Simpson Model 376—Net Each..... **$45.00**

MODEL 377-2 DC VOLTMETER

Resistance 1000 ohms/volt for radio servicing and industrial applications. **Ranges:** 0-1-2.5-5-10-25-50-100-250-500-1000 volts. **Accuracy:** ±3% of full scale.
Simpson Model 377-2—Net Each..... **$45.00**

MODEL 373 DC MILLIAMMETER

General purpose design for plate and screen grid measurements on tubes, etc. **Ranges:** 0-1-5-10-25-50-100-250-1000 mA. **Accuracy:** ±3% of full scale.
Simpson Model 373—Net Each..... **$45.00**

MODEL 378 AC MILLIAMMETER

Five ranges for a wide variety of testing: Transformers, vacuum tubes, etc. With current transformer built-in. **Ranges:** 0–5–25–100–250–1000 mA. **Accuracy:** ±5% of full scale.
Simpson Model 378—Net Each..... **$45.00**

MODEL 374 DC MICROAMMETER

Basic movement sensitivity, 50 μA with self-contained shunts for other ranges. Use with external resistors or multipliers as high sensitivity voltmeter at 20K ohms/volt. Can be shorted out of circuit using selector knob. **Ranges:** 0–50–100–250–500–1000 μA. **Accuracy:** ±3% of full scale.
Simpson Model 374—Net Each..... **$45.00**

MODEL 379 BATTERY TESTER

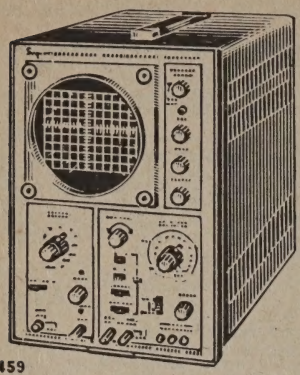
Accurate indication of all flashlight, hearing aid (mercury), transistor and portable radio batteries. **Ranges:** 0-1.5-4.5-6-7.5-9-15-22.5-30-45-67.5-90 volts.
Simpson Model 379—With test leads and manual. Net **$45.00**

MODEL 387 APPLIANCE TESTER

Millivoltmeter for fast, accurate gas unit servicing. Place probe across thermocouple terminals, test for correct value. **Accuracy:** ±3%, full-scale. **Range:** 0–10–30–100–300–1000 mV. **Size:** 3" x 5⅞" x 2½". Weight, 1½ lbs.
Simpson Model 387—Net Each..... **$47.50**

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE



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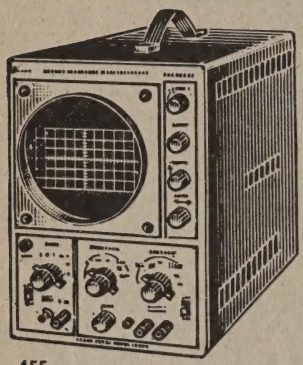
MODEL 459 GENERAL INDUSTRIAL 5-INCH OSCILLOSCOPE

Solid state, automatically triggered, 5″ scope ideal for the design, production and servicing of industrial communications and consumer electronic products. Illuminated 8 cm x 10 cm graticule has amplitude and vector markings. Unit accepts standard scope camera or light hood. Has P1 filter. Regulated power supplies maintain stable deflection, time base, brightness and focus. **Vertical Amplifier Bandwidth:** DC coupled, DC to 15 MHz (−3 dB); AC coupled, 2 Hz to 15 MHz (−3 dB). **Vertical Amplifier Sensitivity:** 11 calibrated steps from 10 mV/cm to V/cm (±3%). Variable gain control provides continuous coverage. **Vertical Amplifier Input Impedance:** 1 megohm ±2%, 35 pF approx. **Horizontal Amplifier Sweep Frequency Ranges:** 0.5 sec/cm to 0.2 μsec/cm in 20 calibrated steps. 5X magnifier extends sweep to 40 nsec/cm. Has additional range positions for TV-H and TV-V. **Horizontal Bandwidth:** DC coupled, DC to 1 MHz (−3 dB). **Horizontal Sensitivity:** Variable w/500 mV/cm max. **Horizontal Amplifier Input Impedance:** 200 kohm ±10%, 40 pF approx. **Calibration Voltage:** 1 kHz square wave, 5 V, 0.5 V and 50 mV peak-to-peak (±3%). **Power Source:** Line voltage, 120 VAC or 240 VAC, 50-60 Hz (±10%). **Power Required:** 90 VAC max. **Operating Temperature Range:** 0° to 40° C. **Size:** 8¾″ w. x 20″ d. x 12¾″ h. Weight, 30 lbs.
Simpson Model 459 Oscilloscope—With all front and rear panel controls, shielded input cable, line cord and operator's manual. Net Each..... **$450.00**

MODEL 455 GENERAL PURPOSE OSCILLOSCOPE

DC coupled general purpose oscilloscope with retrace blanking for color TV servicing and industrial applications. CRT measures and displays sharp waveforms with uniform intensity trace over entire viewing area in low parallax and high contrast graticule. Unit accepts scope camera, light hood and vector inputs. **Vertical Amplifier Bandwidth:** DC coupled, DC to 10 MHz (−3 dB); AC coupled, 2 Hz to 10 MHz (−3 dB). **Vertical Amplifier Sensitivity:** 9 calibrated steps from 10 mV/cm to 5 V/cm ±3%; vertical gain control provides continuous coverage. **Vertical Amplifier Input Impedance:** 1 megohm ±5%, 42 pF max. **Sweep Frequency Ranges:** 1 Hz to 200 kHz in 5 overlapping ranges. **Horizontal Amplifier Bandwidth:** DC coupled, DC to 500 kHz (−3 dB); AC coupled, 2 Hz to 500 kHz (−3 dB). **Sensitivity:** 300 mV/cm; x 1 x 10 step attenuator and fine control. **Input Impedance:** 1 megohm ±10%, 50 pF max. **Cathode Ray Tube:** 5″ round type 5 UP 1-F with 6 x 10 cm display area and 1.5 kV acceleration voltage. **Calibration Voltage:** 1 kHz square wave, 500 mV (p-p), ±5%. **Power Required:** 120/240 VAC, 50/60 Hz, as indicated on the back of instrument (operating range, 105 to 125 or 210 to 250 VAC), 100 VA max. **Intensity Modulation:** 30 V p-p. **Size:** 8″ w. x 16½″ d. x 10⅜″ h. (approx). Weight, 24 lbs. approx.
Simpson Model 455 Oscilloscope—With all front and rear panel controls, shielded input cable, 5 ft. line cord and operating manual. Net Each..... **$325.00**
Simpson Model 07548—Low capacitance 10 to 1 probe for Model 455. Net Ea...**$17.50**



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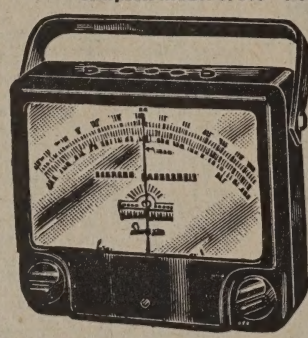
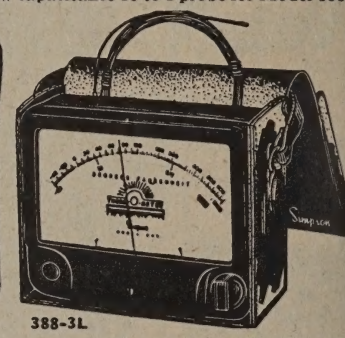


389-3L



388-3L

385-3L

MODEL 385-3L TEMPERATURE METER

Compact instrument ideal for measuring temperatures from −50° F to +70° F under conditions where fast, accurate readings are important. Thermistor sensing element. Large 3″ meter. **Accuracy:** ± 1° F, center scale; ± 2° F at ends. **Size:** 3″ x 5⅞″ x 2½″. Net Weight, 1½ lbs.
Simpson Model 385-3L—For three probes. Complete with one Model 0010 15′ thermistor type lead, and manual. Net Each..... **$55.00**

MODEL 388-3L THERM-O-METER

Measures the temperature of gases, air, solids or liquids; over a range of from −50° F to +1000° F. Combined Fahrenheit and Centigrade scale. Thermocouple (iron-constantan) sensing element. **Accuracy:** ± 1½ scale divisions. **Size:** 7 15/16″ x 6″ x 2 15/16″.
Simpson Model 388-3L—For three probes. With Adjust-A-Vue handle, one 0190 general purpose 8′ probe, internal battery, and instruction manual. Wt., 4 lbs. Net Ea.. **$115.00**

MODEL 389-3L THERM-O-METER®

Dual-range temperature tester permitting an accuracy of ±2° F. Dial has combination Centigrade and Fahrenheit scales. **Ranges:** − 50° F to + 100° F; + 100° F to + 250° F. **Accuracy:** ± 2° F. Supplied in three-lead model only. **Size:** 7 15/16″x6″x2 15/16″. Wt., 4 lbs.
Simpson Model 389-3L—With internal battery, manual, and one Model 0010 15′ thermistor type lead; additional probes are available. Net Each..... **$105.00**

TEMPERATURE TESTER ACCESSORIES

For 385-3L or 389-3L			For 388 or 388-3L		
Model	Description	Net Ea.	Model	Description	Net Ea.
0789	Free air T probe	$16.25	0496	8′ service lead	$11.75
0010	15′ therm. lead	14.00	0190	Gen. purpose thermocouple	11.75
0216	Same, 30 ft.	14.00			
0415	Same, 50 ft.	15.25	0187	Surface temp. thermocouple, 1000° F max.	15.25
0416	Same, 100 ft.	18.50			
0417	Same, 150 ft.	23.25			
0790	Surface T probe	12.75	5262	Ever-Redy vinyl case†	18.00
8073	Ever-Redy Case*	14.00			

*Leather, 385-3L only. †For 388, 388-3L or 389-3L.

ACCESSORIES FOR OTHER TESTERS

Model	For Instrument	Description	Net Ea.
8463	269-3, others	Comb. test prods with allig. clips and elbow terms.	$ 3.75
0173	269 Series 1	16 kV high voltage probe	22.00
0181	269 Series 1	40 kV high voltage probe	22.00
0172	262 Series 1, 2	16 kV high voltage probe	22.00
0180	262 Series 1, 2	40 kV high voltage probe	22.00
5262	269-3, others	Ever-Redy vinyl case	18.00

VOM AND VTVM ACCESSORIES

Model	For Instrument	Description	Net Ea.
0146	262-3	16 kV high-voltage probe	$23.25
0145	262-3	30 kV high-voltage probe	23.25
0158	263	Comb. 30 kV (10K ohms/V) and 15 kV (20K ohms/V) probe	21.00
0507	260-6, others	10 kVDC high-voltage probe	19.75
0509	260-6, others	30 kVDC high-voltage probe	22.00
0115	260-6, others	Comb. test prods, removable alligator clips, elbow terminals	5.25
0505	260-6, others	5 kVAC high-voltage probe	5.25
0506	260-6, others	5 kVDC high-voltage probe	5.25
0119	269-2, -3	16 kVDC high-voltage probe	23.25
0157	269-2, -3	30 kVDC high-voltage probe	23.25
5262	269-3, others	Ever-Redy vinyl case	18.00
1613	262-3, others	Sponge-lined vinyl case	18.50
0067	303-1	DC probe	7.00
0068	303-1	AC probe	7.00
0069	303-1	Ground lead	3.60
0073	303-1, -2	High frequency probe	14.75
0074	303-1	30 kVDC high-voltage probe	23.25
0805	260-5, others	Ever-Redy vinyl case	20.50
6379	303-1	Roll top safety case	15.25
0731	311-1	High frequency probe	22.00
0732	311-1, -2	High voltage probe	22.00
0733	311, 303-2	Ground lead	3.25
7594	311-1, -2	DC-AC/Ohms probe	14.00
0100	715	Input cable	5.75
0150	312, 303-2	AC/DC ohms probe	14.75
0152	312	High frequency probe	14.75
0155	312	30 kVDC high-voltage probe	23.25
0577	312, 313, 314,	Vinyl case with storage probe	19.75
1565	202	Sponge-lined vinyl case	22.75
0193	314	RF probe, 10 kHz to 250 MHz, ±1 dB	13.75
7509	383A	Test lead assembly	3.75

Simpson Test Equipment

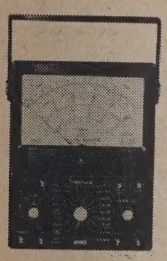
INSTRUMENTS THAT STAY ACCURATE

MODEL 257 MULTI-TESTER

Similar to Model 256, with 100,000 ohms/volt DC sensitivity (20,000 ohms/volt AC). **Accuracy:** ±1.5% DC, ±2.5% AC. **DC Volts:** 0–0.1–0.5–2.5–10–25–100–250–1000–5000. **AC Volts:** 0–10–50–250–1000. **DC Current:** 0–10–50–250 μA; 0–1–5–25–100 mA; 0–1 amp. **DC Resistance:** Rx1 (30 ohms center scale), Rx1K, Rx100K, Rx10 meg (external 100–140 VDC supply needed). **AC Resistance:** Rx1 meg (1 meg center scale); external 100–240 VAC supply needed. **Capacitance:** 2000 pF to 5 μF (external 100–240 VAC supply needed. **Decibels:** −8 to +22, +6 to +36, +20 to +50. **Output Ranges:** 0.1 μF capacitor in series with AC voltage ranges, 10–250 VAC. **Size:** 4⅝" w. x 3⅜" d. x 9⅝" h.
Simpson Model 257—With test leads, batteries and manual. Net Each..... **$95.00**

MODEL 260-6XL VOM

A new member of the 260 family for the special needs of the solid-state electronics industry. Has all the features of Model 260-6, plus extra ranges and features, low-power ohms capabilities, and extra shock and drop-resistant capabilities. **DC Volts (20,000 ohms/V.):** 0–0.25, 1, 2.5, 10, 25, 100, 250, 500, 1000; **AC Volts (5000 ohms/V):** 0–2.5, 10, 25, 100, 250, 500, 1000; **DC Current:** 0–50μA (250mV drop), 0–0.5 and 5mA (250mV drop), 0–5 and 50mA (252mV drop), 0–500mA (400mV drop), 0–5A (250mV drop); **AC Current:** Up to 250A with optional Model 150 Amp-Clamp Adapter; **dB Scale (1mW–600 ohms):** −20 to +10, −9 to +21, −1 to +29, +11 to +41, +19 to +49; **Resistance (conventional):** 0–1K ohms, 100K ohms, 1 meg, 10 megs (Rx1–x100–x1K–x10K) (6, 600, 6K, 60K ohm centers, respectively); **Resistance (low-power):** 0–1K ohms, 10K ohms (Rx1–x10) (20 and 200 ohm centers, respectively).
Simpson Model 260-6XL—Complete with batteries, test leads, and manual. Net Each..... **$90.00**
Simpson Model 260-XLM—With mirror scale. Net Each **93.00**
Simpson Model 260-XLP—Same as 260-XL, but features overload protection circuit. Net Each..... **$125.00**
Simpson Model 260-XLPM—With mirror scale. Net Each..... **128.00**



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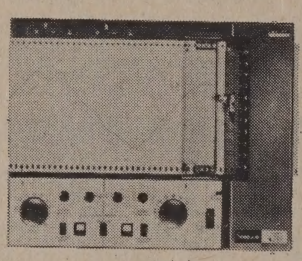

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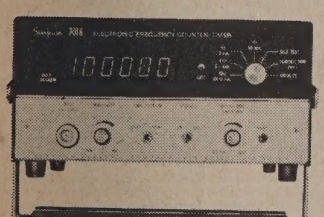

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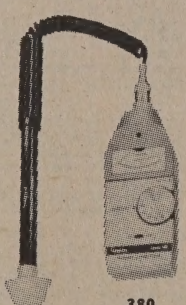

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294—

MODEL 303-3XL SOLID-STATE FET VOM

A portable multimeter for field and factory electronic servicing, as well as design and component testing. IC's and LED's are combined in an all solid-state circuit for high input impedance, high sensitivity, and drift-free performance. Simplified dial places most measurements on same scale. Automatic LED "polarity" and "power on" indication. An AC charger (supplied) charges the self-contained, nickel cadmium "D" cell to provide up to 20 hrs. of continuous operation; the instrument can also be AC line operated. **AC and DC Volts (10 megohm impedance):** 0–0.03, 0.1, 0.3, 30, 100, and 300 (1000 VAC and 1000 VDC on separate jacks); **AC and DC Current:** 0–30μA, 1mA, 30mA (1A and 10A on separate jacks); **Resistance (low-power and diode ohms):** Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1 meg (10 ohms center scale).
Simpson Model 303-3XL—Complete with probe, test leads, battery, charger adapter, and manual. Net Each..... **$165.00**
Simpson No. 00074 HV (30KV) probe.—Net Each... **23.25**

MODELS 294, 295, 296 AMP-CLAMP METERS

A new series of lightweight instruments for troubleshooting on motors, relays, transformers, and control circuits. Load balance tests and alternating current measurements can be made without power interruption. **AC Current (all models):** 0–6, 15, 30, 60, 150, and 300A; **AC Voltage (Models 295 and 296):** 0–30, 150, 300, and 600V; **Resistance (Model 296):** 0–500 ohms (25 ohm center scale); **Size:** 10" l. x 2.7" w. x 1.4" h; **Weight:** 14 oz.
Simpson Model 294—Net Each..... **$45.00**
Simpson Model 295—Complete with test leads and manual. Net Each..... **$53.00**
Simpson Model 296—Complete with test leads, battery, fuse and spare, and manual. Net Each..... **$71.50**
Simpson No. 02227 Probe and bracket—Net Each..... **2.75**
Simpson No. 02226 Carrying Case—Net Each..... **16.40**

MODEL 151 LINE SPLITTER

For use with Simpson Models 150, 294, 295 and 296 testers and other clamp-on units. Unit separates the two wires of an AC circuit for use of clamp-on meters; also provides 10X multiplication for low currents. Durable, high-impact housing withstands heavy-duty conditions.
Simpson Model 151—Complete with 2 ft. cord, 3-prong plug, and manual. Net Each..... **$7.15**

MODEL 7016 COUNTER-TIMER

An electronic frequency counter-timer for measuring frequency, elapsed time, and events. The 0.55" planar display is easily readable. Other features include: display storage selection, automatic decimal point location, variable display time, manual reset, overrange and gate-time indications, high input impedance, and input overload protection. **Frequency:** 5 Hz to 50 MHz; **Gate time:** 10 msec. (0.1kHz resolution), 0.1 sec., 1.0 sec., 10 sec. (0.1 Hz resolution); **Accuracy:** ± 1 count ± time-base accuracy; **Elapsed Time:** 0.01 sec. to 19999.99 sec., based on 1,000,000 counts overrange; **Accuracy:** ± 1 count; **Self Test:** Internal 100kHz signal to test circuits and display.
Simpson Model 7016—With probe assembly, power cord, and manual. Net Each..... **$335.00**
Simpson Model 7016A—Same as Model 7016, but with more accurate internal oscillator. Net Each..... **$435.00**
Simpson Model 7016B—Same as Model 7016, but with BCD output. Net Each..... **$385.00**
Simpson No. 00238 Replacement Probe—Net Each.. **16.00**

MODEL 7026 ELECTRONIC COUNTER

Similar to Model 7016, but with extended measurement capabilities, such as: periods, ratios of two frequencies, time intervals, and totalizing. **Frequency:** 5 Hz to 50 MHz; **Gate Time:** 10 μsec. (0.1 MHz resolution), 100 μsec., 1 msec., 10 msec., 100 msec., 1 sec., 10 sec. (0.1 Hz resolution); **Accuracy:** ± 1 count ± time-base accuracy; **Period Display Range:** Single, 100 μsec. to 0.2 sec. Multiple, averaged, 100 msec. to 0.2 sec. Averaged, 1, 10, 100, 1000 sec.; **Resolution:** Single, 10 μsec. Multiple, averaged, 10 μsec.; **Accuracy:** ± 1 count ± time-base accuracy.
Simpson Model 7026—Complete with probe assembly, power cord, and manual. Net Each..... **$385.00**
Simpson Model 7026A—Same as Model 7026, but with more accurate internal oscillator. Net Each..... **$485.00**
Simpson Model 7026B—Same as Model 7026, but with BCD output. Net Each..... **$435.00**
Simpson No. 00238 Replacement Probe—Net Each.. **16.00**

MODEL 7020 HIGH-FREQUENCY SCALER

A solid-state scaler that will interface with Simpson Models 7016 and 7026 and other frequency counters to extend the frequency capability to 512 MHz. A front-panel switch selects direct frequency divisions of 1, 10, and 100. **Input f/1:** 10 MHz to 100 MHz, sine or square waves; **f/10:** 10 MHz to 512 MHz, square wave or 40 MHz to 512 MHz, sine wave; **f/100:** 10 MHz to 512 MHz, square wave or 40 MHz to 512 MHz, sine wave; **Sensitivity:** 50mV rms. min. to 2V rms. max., protected to 5V rms.
Simpson Model 7020—Complete with power cord, connectors and manual. Net Each..... **$450.00**

MODEL 380 MICROWAVE LEAKAGE TESTER

The Model 380 measures the amount of microwave leakage energy radiated by ovens, heaters, and other industrial equipment generating high power at 2450 MHz. The non-polarized probe permits selection of four distinct ranges for power-density measurements. The response time is variable. Built-in tripod mount. **Frequency:** 2450 MHz ± 10 MHz; **Power Density Ranges:** 0–2.5, 10, 25, and 100 mW/cm²; **Accuracy:** ± 1dB; **Response Time:** Fast–1.2 sec. max, Slow–3.0 sec. nominal; **Power Required:** Two 9 V batteries, supplied; **Size:** 8.18" l. x 3.03" w. x 1.87" d.; **Weight:** less than 1 lb.
Simpson Model 380—Complete with probe, extra Styrofoam spacer, two batteries, and manual, all in carrying case. Net Each..... **$195.00**

MODEL 2745 X-Y RECORDER

The Model 2745 features full X-Y plus Y-T strip-chart recording. It is ideal for precision recording of sound-level variations in conjunction with Simpson Models 884 and 886 Sound Level Meters, with or without the Simpson Model 888 Octave Band Filter. Recording can be accomplished with ink using a felt-tip pen or inkless using a stylus and pressure-sensitive paper. Any range can be zero suppressed from 0 to 100%. The zero value can be placed anywhere on the chart for bipolar recording. **Ranges:** 1, 2, 5, 10, 20, 50 mV/cm, both axes; **Intermediate Ranges:** Sensitivity is continuously adjustable from 40 to 100% of any range selected; **Drive Speeds:** 1, 2, 4, 10, and 20 cm/sec., or 1, 2, 4, 10, and 20 min./cm.; **Power Required:** Eight 1.5 V "D" cells; **Size:** 8.08" w. x 10.24" d. x 3.59" h.; **Weight:** 7.72 lbs.
Simpson Model 2745—Complete with two rolls of paper, two pads of sheets, two stylii, test leads, dust cover, batteries, and manual. Net Each..... **$1295.00**

Simpson Instrumentation Products

INSTRUMENTS THAT STAY ACCURATE

MODEL 2785 R-L-C BRIDGE

Precision multi-purpose bridge for measuring capacitance, inductance, resistance and "Q". Null indications are accurate and no critical adjustments needed. Built-in 1 kHz oscillator; input jack provided for external oscillator to allow measurements at other frequencies. Wide-range versatile instrument with long slide-rule dial and sensitive galvanometer. **Accuracy:** ±1%, resistance and capacitance ranges except for 1 ohm, 10 megohms, 1000 μF; ±1.5%, inductance ranges except for 10 μH, 100 H; ±5%, Tan-d and Q measurement ranges. **Resistance:** 0.05–1, 0.5–10, 5–100, 50–1K, 500–10K, 5K–100K, 50K–1 meg, 500K–10 megohms. **Capacitance:** 5 pF–100 pF; 50 pF–1 nF; 500 pF–10 nF; 5 nF–100 nF; 50 nF–1 μF; 500 nF–10 μF; 5 μF–100 μF; 50 μF–1000 μF. **Inductance:** 0.5 μH–10 μH; 5 μH–100 μH; 50 μH–1 mH; 500 μH–10 mH; 5 mH–100 mH; 50 mH–1 H; 500 mH–10 H; 5 H–100 H. **Tan-d and Q:** Tan-d x 0.01, Tan-d x 1, Q x 1. **Power Required:** Two 9 volt batteries, NEDA No. 1603 or Burgess No. D6 or equivalent. **Size:** 11 13/16″ w. x 6 11/16″ d. x 8 5/8″ h. Weight, 12 lbs. with batteries.

Simpson Model 2785—With test leads, batteries and manual. Net Each..... **$575.00**

MODEL 2795 ELECTRONIC MULTIMETER

Advanced design, precision multi-function instrument offers high input impedance, negligible voltage drop and circuit breaker overload protection. Stable, drift-free amplifier eliminates the need for zero adjustments. Adjustments for capacitance and resistance are made at full scale without shortening leads. Power is supplied by internal batteries with an electronic chopper which provides AC needed for capacitance measurements. **Features:** Quick reset, front panel pushbutton; taut band suspension; anti-parallex mirror scale; separate scales for AC/DC voltage and current, resistance, capacitance, temperature and dB measurements. **Accuracy:** ±1% of full-scale AC/DC; ±1.0% of full-scale resistance and capacitance, ±4.0% of reading at mid-scale; ±1% per 10° C from 0–50° C temp. range. **AC/DC Volts:** 0–1–3–10–30–100–300 mV; 0–1–3–10–30–100–300–1000 volts. **AC/DC Current:** 0–1–3–10–30–100–300 μA; 0–1–3–10–30 mA; 0–0.1–0.3–1–3 amps. **Resistance:** 0.2–500 ohms (10 ohms center); 2–5K ohms (100 ohms center); 20–50K ohms (1K ohms center); 0.2K–500K ohms (10K ohms center); 2K–5 megohms (100K ohms center); 20K–50 megohms (1 megohm center). **Capacitance:** 5–2000 μF (100 μF center); 0.5–500 μF (10 μF center); 0.05–50 μF (1 μF center); 5 nF–5 μF (100 nF center); 0.5–500 nF (10 nF center); 0.05–50 nF (1 nF center). **Temperature:** ±18° C from ambient; ±180° C from ambient. **Decibels:** −80 to −58; −80 to −48; −60 to −38; −50 to −28; −40 to −18; −30 to −8; −20 to +42; −10 to +12; −0 to +22; +10 to +32; +20 to +42; +30 to +52; +40 to +62. **Size:** 5.04″ w. x 3.94″ d. x 8.07″ h. Weight, 52.8 oz.

Simpson Model 2795—With test leads, batteries and manual. Net Each..... **$275.00**

ACCESSORIES FOR MODEL 2795

Simpson No.	Description	Net Each
06532	1/3/10/30/100 DC amps shunt	$37.50
02462	10/30/100/300/600 AC amps current xfrmr*	98.00
02463	10/30/100/300/1000 AC amps current xfrmr*	156.50
22923	Surface temp. thermocouple probe	64.50
22924	Immersion type thermocouple probe	64.50
00509	30 kV DC high voltage probe	22.00
07541	Replacement test leads	4.75
22927	Leather carrying case	46.25

*±1%, 45–65 Hz.

MODEL 2791 HIGH FREQUENCY PROBE

High frequency probe for use with Model 2795 multimeter. Wide measuring range of 0.1 to 25 V rms; wide frequency range of 10 kHz to 800 MHz, usable up to 1 GHz. Built-in temperature compensation and linearizing circuit for direct reading on linear scale. Interchangeable probe heads for optimum frequency measurement.

Simpson Model 2791—Net Each..... **$100.00**

MODEL 603 MINIATURE CHART RECORDERS

Compact recorders use inkless pressure-sensitive paper for accurate, dependable recording of a single variable. Available to measure AC voltage, AC current, DC voltage or DC current. Specially formulated chart paper will not fog or blur with age, assuring clear and accurate permanent records. Records with an impression every two seconds on 3″ wide chart, 63′ long. Uses rugged, shockproof taut-band movement. Meter also provides continuous readings of measured value. Four built-in chart speeds are switch selected (available in high, low or intermediate speed ranges). Built-in event indicator. For panel-mounting or portable operation. **Accuracy:** DC models, ±2.5% of full-scale; AC models, ±4.0% of full-scale. **Event Channel Response Time:** 10 msec nominal. **Chart Speeds:** 1½, 6, 12 and 18″ per hour. **Power Required:** 115 VAC, 60 Hz. **Size:** 7½″ x 4 3/16″ x 2 25/32″. Wt., 2½ lbs.

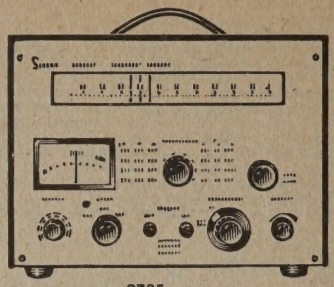
Range	Net Each	Range	Net Each
0–50 DC μA	$112.00	0–15 DC Volts	$102.00
0–100 DC μA	107.00	0–50 DC Volts	102.00
0–250 DC μA	103.00	0–150 DC Volts	101.00
0–1 DC mA	95.00	0–5 AC Amps	125.00
0–5 DC mA	102.00	0–5 AC Volts	107.00
0–50 DC mA	102.00	0–150 AC Volts	109.00
0–500 DC mA	102.00	0–300 AC Volts	109.00
0–5 DC Amps	103.00	100–130 AC Volts	110.00
0–50 DC mV	98.00		

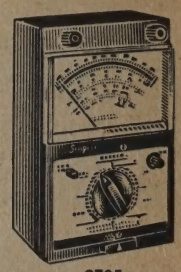
Write for accessories on above models.

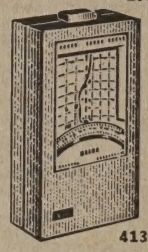
MODEL 413 TEMPERATURE RECORDER

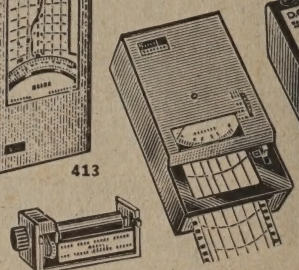
Portable temperature recorder uses inkless pressure-sensitive paper that will not smudge, blur or fog with age. Uses no batteries, no external power and no ink. Precision clock motor operates for more than a month on one winding. Records accurately under conditions of shock or temperature extremes and gives instantly maximum and minimum temperature reached. Can be packed in shipping crates and will give a written record of perishables in transit or in storage. **Accuracy:** ±1.5% of full-scale. **Response Time:** 15 minutes for 50% temp. change; 40 minutes for 90% change. **Recording Range:** 120° F full-scale span; see below for specific ranges. **Chart Speeds:** 24, 48 or 96 mm/day selectable with interchangeable gears. **Size:** 3.6″ w. x 1.8″ d. x 6.5″ h. Weight, 2.2 lbs.

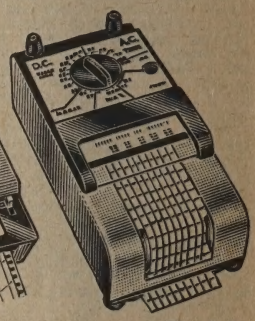
Simpson Model 413—With 2 rolls of chart paper, gears for 3 chart speeds, plastic bag and manual. Specify recording range: +30° to +150° F, 0 to +120° F, or −30° to +90° F. Net. **$160.00**











MULTI-RANGE STRIP CHART RECORDERS

Volt-amp-milliamp-microamp recorders for permanent record of range and measured value. Inkless design leaves fast sequential impression on pressure-sensitive strip chart, at any of 3 built-in speeds; virtually maintenance-free. Low-cost paper has hard wax surface, will not fog or blur with age. High torque meter movement has shockproof taut-band suspension and moving coil system. Rugged, compact, accurate and easy-to-operate on a wide band of ranges and functions; chart shows range in use as the value is recorded. Makes an impression every 2 seconds with chart speeds of 1″, 3″ or 12″ per hour, driven by self-contained synchronous motor or by external means. Paper is 2.6″ wide, on 50′ roll with 50 divisions for Model 604, 30 divisions for Model 605. **Accuracy:** ±1.5% of full-scale, indication; ±2.5% of full-scale, recording. **Power:** 115 VAC, 60 Hz with grounded cord supplied. **Size:** 9¾″ x 4¾″ x 4″. Wt., 5½ lbs.

MODEL 604 MULTICORDER®

Offers 22 switch-selected ranges, with 20,000 ohms/volt DC sensitivity, 5000 ohms/volt AC. **DC Millivolts:** 0–100–500. **DC Volts:** 0–2.5–10–25–100–250–500. **AC Volts:** 0–10–25–100–250–500. **DC Current:** 0–50–250 μA; 0–1–5–25–100–250 mA; 0–1 amp. **AC Current:** 0–200 μA. With test leads, chart paper and manual.

Simpson Model 604 Recorder—Net Each..... **$275.00**

Simpson Model 604—Battery operated DC only. Net. **350.00**

MODEL 605 MULTICORDER®

Has 24 ranges, with 666 ohms/volt sensitivity on AC and DC. **DC Millivolts:** 0–12–30–60. **DC Volts:** 0–3–15–60–300–600. **AC Volts:** 0–6–30–150–300–600. **DC Current:** 0–600 μA; 0–1.5–3–6–30–150 mA; 0–1.2–6 amps. **AC Current:** 0–3–15–60–300 mA; 0–1.2–6 amps. With test leads, chart paper and manual.

Simpson Model 605 Recorder—Net Each..... **$295.00**

Simpson Model 605—Battery operated DC only. Net. **370.00**

MODEL 604 AND 605 ACCESSORIES

Simpson No.	Description	Net Each
02611	Vinyl carrying case	$34.00
00682	Gear unit for 30/60/90″ per hour speed	30.00
02612	Chart paper for 604 (Box of 10, 50 divisions)	26.00
02614	Chart paper for 605 (Box of 10, 30 divisions)	26.00
06526	0–5 DC amp shunt, 604 only	40.00
06527	0–25 DC amp shunt, 604 only	16.75
06528	0–50 DC amp shunt, 604 only	16.75
06529	0–120–300–600 DC amp shunt, 605 only	87.00
06531	0–100 DC amp shunt*	16.75
22923	Thermocouple probes	64.50
22924	Thermocouple probes for 605 only	64.50

*When used with 604; 0–12–30–60 when used with 605.

CURRENT TRANSFORMERS FOR MODEL 605

Simpson No.	Ranges Pri. Amps	Sec. mA	Turns Ratio	Accuracy	Net Each
02461	600/120/30	300/60/15	2,000:1	±3%, 45–65 Hz	$54.50
02462	600/120/30	60/15/3	10,000:1	±1%, 45–65 Hz	98.00

Simpson Instrumentation Products

INSTRUMENTS THAT STAY ACCURATE

MODELS 2750, 2755, 2760, 2761 AND 2762 MINIATURE STRIP CHART RECORDERS

Strip chart recorders mount in less panel space than a 4½″ meter. Use specially formulated paper which requires no ink. Will record continuously for over a month at 20 mm per hour, using a single roll of chart paper. **Chart Speeds:** 20 mm (0.79″) and 120 mm (4.72″) per hour switch selectable. Quick-change gear boxes are available to provide other speeds. **Chart Paper:** Pressure sensitive, 2.6″ wide x 50′ long. **Take-Up Reel:** Built-in, automatic motor driven. **Motor Drive:** Synchronous, 3 VA, 90–160 VAC, 60 Hz. Supplied complete with two rolls of chart paper, panel mounting bracket, 60-inch three-wire line cord, test leads (Models 2761 and Model 2762) and manual. **Size:** 3¾″ square by 9⅛″ deep. Weight, 4 lbs. approximate.

MODEL 2750 MINIATURE CHART RECORDERS

Miniature single or dual-channel recorders available with AC and DC voltage, AC and DC current ranges; and as 0–1 mA/0–1 mA dual channel unit. **Accuracy:** ±1.5% of full scale. **Impression Rate:** 3 seconds.

Range	Net Each	Range	Net Each
0–10 DC microamps*	$211.75	0–0.4/25 DC millivolts‡	$297.00
0–50 DC microamps*	194.50	0–50 DC millivolts	178.25
0–100 DC microamps	183.50	0–5 AC amps	194.50
0–500 DC microamps	178.25	100–130 AC volts§	216.00
0–1 DC milliamps	178.25	0–150 AC volts	183.50
0–1/0–1 DC milliamps†	221.50	0–300 AC volts	183.50

*Impression rate: 6 seconds. †Dual channel; impression rate: 6 seconds; 5 times on one channel; 1 time on other channel. ‡Adjustable. §Segmental scale.

MODEL 2755 10-CHANNEL EVENT RECORDERS

Provides continuous recording of ten separate events. Records any variable that can be converted to an electrical value. **Accuracy of Recording:** 10 msec nominal pen response. **Impression Rate:** Continuous. **Power per Solenoid:** 1.2 watts except AC model, 2.2 VA.

Voltage	Voltage	Net Each
10 channels, 6 VDC	10 channels, 24 VDC	$243.00
10 channels, 12 VDC	10 channels, 115 VAC, 60 Hz	243.00
10 channels, 24 VAC, 60 Hz	.....	243.00

SERIES 2760 SINGLE RANGE TEMPERATURE RECORDERS

Record for over a month unattended. Inkless, pressure sensitive paper. Switch selected chart speeds 20/120 mm per hour. Taut band movement is temperature compensated. Completely accurate up to 1.5% FS.

Simpson No.	Ranges	Sensor	Net Each
23100	−60° C to 0° C	Pt-100 Resis. Bulb	$205.25
23102	0 to +60° C	Pt-100 Resis. Bulb	205.25
23114	0 to +100° F	Pt-100 Resis. Bulb	205.25
23103	0 to +100° C	Pt-100 Resis. Bulb	205.25
23008	0 to +500° F	I/C Thermocouple	216.00
23009	0 to +800° F	I/C Thermocouple	216.00
23010	0 to +1500° F	C/A Thermocouple	216.00
23011	0 to +2500° F	C/A Thermocouple	216.00

MODEL 2761 TEMPERATURE RECORDER

Three built-in temperature ranges which are switch selected. **Temperature Range:** −50° F to +50° F; +50° F to +150° F; +150° F to +250° F. **Accuracy of Recording:** ±2° F over range of 0° to 120° F; ±3° F over balance of range. **Impression Rate:** 3 sec.

Simpson Model 2761 Temperature Recorder—Net Ea. **$205.20**

MODEL 2762 TEMPERATURE RECORDER

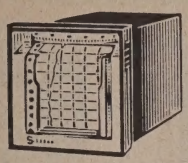
Dual channel features same range recorded on both channels, 2 inputs; two ranges switch selectable. **Temperature Range:** −40° F to +60° F; +50° F to +150° F. **Accuracy of Recording:** ±2° F. **Impression Rate:** 6 seconds; ten times on one channel, two times on the other channel.

Simpson Model 2762 Temperature Recorder—Net Ea. **$226.75**

TEMPERATURE SENSORS FOR SERIES 2760

Simpson No.	Description	Net Each
23235*	Stainless, .187″ x 5″, 10′ leads	$38.75
23245†	Stainless, .187″ x 5″, 10′ leads	22.05
21224†	Stainless overbraid, 235″, 20 ga.	35.10
21223†	Glass cloth overbraid, 34″, 30 ga.	5.85
21222†	Glass cloth overbraid, 137″, 24 ga.	7.05
23246‡	Stainless, .187″ x 5″, 10′ leads	22.05

*Pt-100 Resistance Bulb with 100 ohms resistance at 0° C. †I/C Thermocouple type with 10 ohms resistance. ‡C/A Thermocouple type with 10 ohms resistance.



Models 2750, 2761, 2762, Series 2760

Model 2755

MINIATURE RECORDERS USE JUST 3¾″ X 3¾″ OF PANEL SPACE

ACCESSORIES AND CHART PAPER

ACCESSORIES FOR 2750, 2755, 2761 AND 2762

Simpson No.	Description	Net Each
22392	Portable carrying handle	$23.25
22395	Plastic window for direct paper feedout	5.50
22301	Gear unit for 30/180 mm per hour speeds	31.50
22302	Gear unit for 60/160 mm per hour speeds	31.50
22303	Gear unit for 100/600 mm per hour speeds	31.50
22304*	Gear unit for 300/1800 mm per hour speeds	48.00
22305*	Gear unit for 600/3600 mm per hour speeds	48.00
22394†	Line cord, 3 wire, 60″, with pigtail terminal	4.75
22393	Line cord, 3 wire, 60″, with 117 VAC plug	5.25
22300	Gear unit for 20/120 mm per hour speeds	21.50

ACCESSORIES FOR 2761 AND 2762 ONLY

00789	Free air temperature probe	$16.25
00790	Surface temperature probe	12.75
00010	15-foot thermistor lead	14.00
00216	30-foot thermistor lead	14.00
00415	50-foot thermistor lead	15.25
00416	100-foot thermistor lead	18.50
00417	150-foot thermistor lead	23.25

*For use with Model 2755 recorders only. †For 2760 only.

CHART PAPER FOR 2750 AND 2755 RECORDERS

Box of 10 50-ft. rolls.

Simpson No. for 2750	Simpson No. for 2755	Calibration	Net, Box of 10 Rolls
22310	22380*	20 mm per hour, 30 divisions	$22.00
22311	.....	20 mm per hour, 50 divisions	22.00
22312	22381*	30 mm per hour, 30 divisions	22.00
22313	.....	30 mm per hour, 50 divisions	22.00
22314	22382*	60 mm per hour, 30 divisions	22.00
22315	.....	60 mm per hour, 50 divisions	22.00
22316	22383*	100 mm per hour, 30 divisions	22.00
22317	.....	100 mm per hour, 50 divisions	22.00

*2755 paper has 10 channel markings instead of 30 divisions.

CHART PAPER FOR SERIES 2760 PLATINUM RESISTANCE TYPE

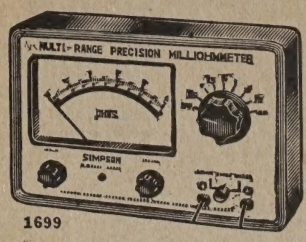
Simpson No.	Calibration	Net, Box of 10 Rolls
23200	20 mm per hour, 60° C	$22.00
23201	20 mm per hour, 100° C	22.00
23209	20 mm per hour, 0 to 100° F	22.00
23202	20 mm per hour, 150/300° C	22.00
23203	20 mm per hour, 200/400° C	22.00
23204	30 mm per hour, 60° C	22.00
23205	30 mm per hour, 100° C	22.00
23206	30 mm per hour, 150/300° C	22.00
23207	30 mm per hour, 200/400° C	22.00
23208	60 mm per hour, 60° C	22.00
23210	60 mm per hour, 150/300° C	22.00
23211	60 mm per hour, 200/400° C	22.00
23212	100 mm per hour, 60° C	22.00
23213	100 mm per hour, 100° C	22.00
23214	100 mm per hour, 150/300° C	22.00
23215	100 mm per hour, 200/400° C	22.00
	THERMOCOUPLE TYPE	
23248	20 mm per hour, 0 to 500° F	$22.00
23249	20 mm per hour, 0 to 800° F	22.00
23250	20 mm per hour, 0 to 1500° F	22.00
23251	20 mm per hour, 0 to 2500° F	22.00

CHART PAPER FOR 2761 AND 2762 RECORDERS

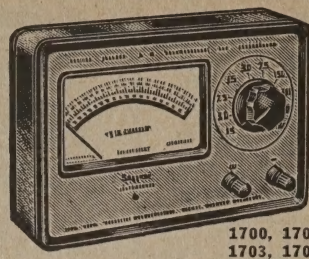
Simpson No. for 2761	Simpson No. for 2762	Calibration	Net, Box of 10 Rolls
23237	23241	20 mm per hour	$22.00
23238	23242	30 mm per hour	22.00
23239	23243	60 mm per hour	22.00
23240	23244	100 mm per hour	22.00

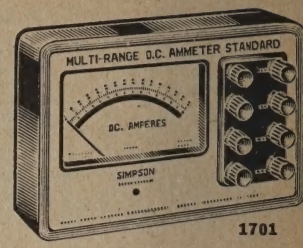
Simpson Instrumentation Products

INSTRUMENTS THAT STAY ACCURATE



1699


1700, 1702, 1703, 1704



1701

MODEL 1699 MULTI-RANGE PRECISION MILLIOHMMETER

Ideal for lab use, for measuring low resistance values accurately (±1% of full-scale) and rapidly. Measures resistance values from .001 to 50 ohms by comparing with standard internal resistance. Test leads with Kelvin Clips are coupled with unique circuit using separate voltage and current paths to insure accuracy. Large 7″ meter has mirrored scale and knife-edge pointer for easy readability. Single arc, 90° dial has 100 divisions. Battery operated, low current (less than 7.95 mW). **Ranges:** 0–.05, .1, .25, .5, 1, 5, 10, 50 ohms. **Max. Output Current:** 460 mA in lowest range, 0.5 mA in 50-ohm range. **Max. Dissipation:** (In sample) 7.95 mW in lowest range, .012 mW in 50 ohm range. **Size:** 11⅜″ x 7⅜″ x 3¼″. Net Weight, 5 lbs. 10 oz.

Simpson Model 1699—With batteries, test leads and manual. Net Each.....**$225.75**

Simpson Model 0156—Extra Kelvin leads. Net Each. **7.00**

DC MULTI-RANGE SECONDARY STANDARDS

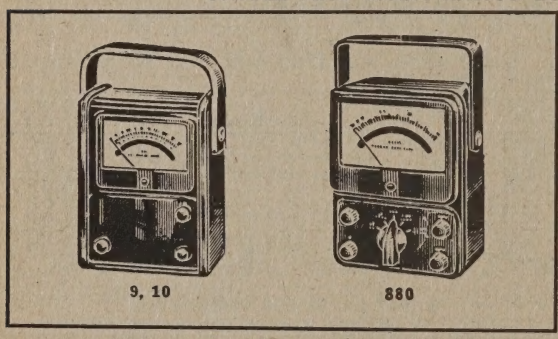
DC lab standards for use in industrial lab testing, incoming inspection, production applications, etc. Designed for long-term accuracy, with spring-loaded sapphire jewels and hardened pivots for high shock resistance and minimum friction. High damping factor and high torque provide rapid response, minimize overshoot. Self-shielded, deep-core movement, impervious to most external magnetic fields. Large ceramic rotary switch has solid silver contacts (Model 1701 ammeter has separate binding posts for each range). Temperature compensated for operation from 15° C to 35° C. Hand-drawn, 5½″ mirrored scales provide superb readability, free from parallax errors with knife edge pointer. **Accuracy:** 0.5% of full scale in horizontal position at 25° C. **External Temperature Influence:** 0.25% per 10° C change. **Sensitivity:** Model 1700, 1000 ohms per volt; 1704, 200 ohms per volt. **Size:** Steel case, 11⅜″ w. x 3¼″ d. x 7⅜″ h.

Model	Range	Max. Loss	Diel. Test	Wt., Lbs.	Net Each
1700 Voltmeter	0–1.5, 3, 7.5, 15, 30, 75, 150, 300, 750, 1500 volts	1 mA	3000 V rms	5½	$225.75
1701 Ammeter	0–0.75, 1.5, 3, 7.5, 15, 30, 75 amps	45 mV	3000 V rms	8	225.75
1702 Milli-ammeter	0–1.5, 3, 7.5, 15, 30, 75, 150, 300, 750, 1500 mA	50–150 mV	3000 V rms	5½	225.75
1703 Microam.	0–75, 150, 300, 750, 1500 μA	.16–.58 V	3300 V rms	5½	204.75
1704 Milliv.*	0–30, 75, 150, 300, 750, 1500 mV	5 mA	3300 V rms	5½	204.75

*Includes special 0.026 ohm test leads.

Simpson Model 9808 Ever-Redy Leather Carrying Case—For 1700 Series. Net Each.....**$46.50**

SINGLE AND MULTI-RANGE LOW-COST SECONDARY STANDARDS


9, 10

880

- **Molded phenolic case with easy-carrying handle**
- **Hand-drawn scale for ½% DC and 1% AC accuracy**
- **Wide selection of ranges for general purpose testing**
- **Single, dual and triple-range models**

Precision portable instruments feature hand-drawn scales, individually calibrated for accuracy. Parallax errors are eliminated by knife-edge pointers, painted black on one side and read against a mirror. Hand-polished, hardened steel pivots; spring-backed jewelled bearings. All models are temperature-compensated. Phenolic case withstands rough use. **Size:** 5¼″ x 3½″ x 7″. Weight, 2½ lbs.

MODEL 880 AC-DC DYNAMOMETER TYPES

Accuracy ±1% of full-scale on DC and low frequency AC. Can be used as a low-cost transfer standard, with 0.25% accuracy at 60 Hz. Arc length, 3.63″ (90° arc).

VOLTMETERS

Sensitivity, 52.5 ohms/volt.

Range, Volts	Net Each	Range, Volts	Net Each
0–75–150–300	$107.00	0–150–300–600	$107.00

SINGLE-PHASE WATTMETERS

Measure true wattage, compensated for power factor. If power being measured approaches full-scale, either voltage or current can be limited. Product of voltage, current and power factor must not exceed full-scale. Maximum voltage, 150 or 300. Single and dual current ranges.

Watts Range		Max. Volts		Maximum Amps	Net Each
Low	High	Low	High		
100	200	150	300	1.5	$ 89.75
200	400	150	300	3.0	89.75
500	1000	150	300	7.5	89.75
1000	2000	150	300	15	89.75
2000	4000	150	300	30	95.50
5000	10000	150	300	75	95.50
250–500*	500–1000	150	300	7.5	112.00
500–1000*	1000–2000	150	300	15	112.00

*Dual-range models.

Simpson No. 6192 Roll-Top Safety Case—For Models 9, 10 and 880. Net Each.....**$11.00**

MODEL 9 DC STANDARDS

DC instruments with annular, self-shielded movement for excellent linearity and freedom from errors caused by nearby magnetic fields. Shunts are milled from single section of manganin for wide-range temperature stability. Multiple-range units have binding post for each range. Accuracy, ±0.5% of full-scale. Voltmeter sensitivity, 1000 ohms/volt. Arc length, 4.03″ (100°).

Range	Net Each	Range	Net Each
0–50 Volts	$ 72.50	0–300/750 Volts	$ 89.75
0–100 Volts	72.50	0–15/150/300 Volts	101.25
0–300 Volts	78.25	0–150/300/600 Volts	101.25
0–50 μA	101.00	0–10/100 mA	84.00
0–100 μA	95.50	0–25/250 mA	84.00
0–200 μA	89.75	0–100/500 mA	84.00
0–500 mA	72.50	0–2.5/5 Amps	84.00
0–5 Amps	72.50	0–5/10 Amps	84.00
0–15 Amps	72.50	0–2.5/10/25 Amps	95.50
0–50 Amps	95.50	0–5/20/50 Amps	95.50
0–150/300 Volts	101.25		

MODEL 10 AC STANDARDS

AC instruments with magnetically damped, repulsion-attraction iron vane movement. Provides essentially linear deflection through upper 80% of scale, with excellent damping and rapid response time, for fast, accurate rms readings. Accuracy, 1% of full-scale, 25–125 Hz (current types, 25–500 Hz). Voltmeter sensitivity, 100 ohms/volt. Arc length, 3.63″ (90°).

Range	Net Each	Range	Net Each
0–150/300/600 Volts	$84.00	0–15 Amps	$66.75
0–50 mA	66.75	0–30 Amps	66.75
0–500 mA	66.75	0–50 Amps	66.75
0–5 Amps	66.75		

TRIPLETT Test Instruments

MODEL 6028 DIGITAL (2¾ DIGITS) V-O-M

1. 2¾ Digits—Provides high accuracy with resolution to 500 microvolts.
2. 10 Ohms To 10 Megohms Full Scale—7 Ohms ranges with zero adjust to null lead resistance.
3. Low Circuit Loading—Greater measurement accuracy with 10 megohm input resistance for all AC and DC voltage ranges.

CONSTRUCTION

Out of Range Indication: All numbers displayed simultaneously. Neon-glow display.
Polarity Indication: Unipolar, soft glow with 0 half digit displayed indicates wrong polarity.
CMR: Greater than 80 dB.
NMR: Greater than 25 dB at 60 Hz.
DC and Ohms: Full scale step response, 2 seconds.
AC: Full scale step response, 5 seconds.
Power Required: 4 watts, 105–125 VAC, 50/60 Hz; or, optional battery pack.
Temperature Operating Range: 0–40° C.
Case Size: 5⅛" w. x 3⅜6" d. x 6½" h.

SPECIFICATIONS

DC and AC Volts (AC, 40–10,000 Hz)
DC input resistance all ranges: 10 megohms. AC input impedance all ranges: 10 megohms at 100 pF.

Range	Maximum Indication	Rated Accuracy, ± ½ Digit, RDG	
		DC Volts	AC Volts
0–100 mV	199.5	±.25%	±.5%
0–1 V	1.995	±.25%	±.5%
0–10 V	19.95	±.35%	±.5%
0–100 V	199.5	±.35%	±.5%
0–1000 V	1100	±.35%	±.75%

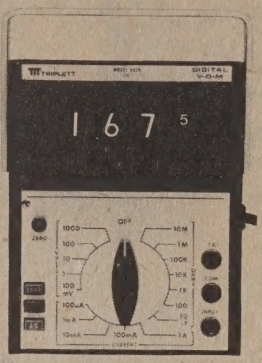
SPECIFICATIONS (CONT'D)

Ohms
Maximum voltage across resistor under test: 1 V full scale all ranges except 10 ohm 100 mV.

Range	Maximum Indication	Rated Accuracy, ± ½ Digit, RDG	Test Current
0–10	19.95	±.5%	10 mA
0–100	199.5	±.5%	10 mA
0–1K	1.995	±.5%	1 mA
0–10K	19.95	±.5%	100 μA
0–100K	199.5	±.5%	10 μA
0–1 Meg	1.995	±.5%	1 μA
0–10 Meg	19.95	±1%	100 nA

DC and AC Current (AC, 40–10,000 Hz)
Voltage drop across input: DC and AC 100 mV.

Range	Maximum Indication	Rated Accuracy, ± ½ Digit, RDG	
		DC Current	AC Current
0–100 μA	199.5	±.5%	±1%
0–1 mA	1.995	±.5%	±1%
0–10 mA	19.95	±.5%	±1%
0–100 mA	199.5	±.5%	±1%
0–1 A	1.995	±.75%	±1%



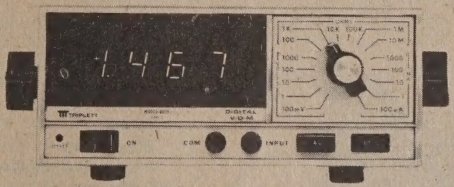
Triplett Model 6028—Tester overload protected. Complete with 42" test leads, alligator clips and instruction book. Shpg. Wt., 4 lbs. Net Each..... **$275.00**

MODEL 8035 3½-DIGIT V-O-M

1. Easy Operation—Single polarized plug for test leads eliminates switching leads when changing functions.
2. Low Power Consumption—Less internal heating for greater stability and reliability.
3. Low Circuit Loading—Greater measurement accuracy with 10 megohm input resistance for all AC and DC voltage ranges.

CONSTRUCTION

Out of Range Indication: Three least significant digits blank.
Polarity Indication: Auto-polarity for DC functions.
Display: Single plane 7 bar fluorescent display.
CMR: Greater than 80 dB with 1 ohm unbalanced at 60 Hz.
NMR: Greater than 30 dB at 60 Hz.
Tester overload protected.
Power Required: 3 watts, 105–125 VAC, 50/60 Hz.
Temperature Operating Range: 0–45° C.
Case Size: 8⅛" w. x 10" d. x 3½" h.



SPECIFICATIONS

DC and AC Volts (AC, 40–20,000 Hz)
DC input resistance, all ranges: 10 megohms. AC input impedance, all ranges: 10 megohms at 50 pF.

Range	Maximum Indication	Rated Accuracy, ±1 Digit, RDG	
		DC Volts	AC Volts
0–100 mV	199.9	±0.1%	±0.5%
0–1 V	1.999	±0.1%	±0.5%
0–10 V	19.99	±0.1%	±0.5%
0–100 V	199.9	±0.1%	±0.5%
0–1000 V	1100	±0.1%	±0.5%

SPECIFICATIONS (CONT'D)

Ohms
Maximum voltage across resistor under test: 199.9 mV all ranges.

Range	Maximum Indication	Rated Accuracy, ±1 Digit, RDG	Test Current
0–100	199.9	±0.25%	1 mA
0–1K	1.999	±0.25%	100 μA
0–10K	19.99	±0.25%	10 μA
0–100K	199.9	±0.25%	1 μA
0–1 Meg	1.999	±0.5%	100 nA
0–10 Meg	10.00	±2%	10 nA

DC and AC Current (AC, 40–20,000 Hz)
Voltage drop across input: DC and AC, 199.9 mV.

Range	Maximum Indication	Rated Accuracy, ±1 Digit, RDG	
		DC Current	AC Current
0–100 μA	199.9	±0.2%	±0.7%
0–1 mA	1.999	±0.2%	±0.7%
0–10 mA	19.99	±0.2%	±0.7%
0–100 mA	199.9	±0.2%	±0.7%
0–1000 mA	1999	±0.4%	±1.0%

Triplett Model 8035—Complete with 42" test leads with single, polarized plug, alligator clips and instruction book. Shpg. Wt., 4½ lbs. Net Each..... **$385.00**

ACCESSORIES

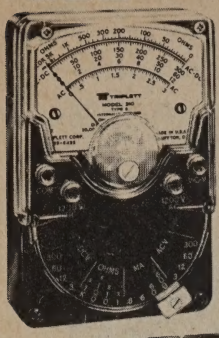
REPLACEMENT LEADS

No.	For Tester	Description	Net Each
79-160	Model 10 plus any 630 with 3 VAC scale at 5000 ohms/V	6-ft. lead using Model 10 as clamp-on ammeter with 630 series as noted	$ 4.20
79-153	Model 310 series	Needle nose test leads	4.20
79-296	Model 310 series	Blunt nose test leads	6.40
79-267	Model 601	Test lead	16.60
79-261	Models 601 & 602	Black ground lead	3.00
79-288	Model 602	Test lead	16.60
79-127	Model 630 series, 666-R, 990, 6028, G/P	Test leads	$ 4.20
79-290	Model 801	Probe only	11.60
79-291	Model 801	Shielded lead	6.80
79-311	Model 825	Thermocouple probe	14.50
79-192	Model 850	Test leads	9.50
79-214	Model 850	Black ground lead	1.90
79-320	Model 8035	Test leads	11.10

BLACK COWHIDE CASES

Model	For Tester	Description	Net Each
369	310, 310-C, 310-FET	Top opening with trouser loop on back	$ 5.40
369-S	310, 310-C, 310-FET	Front opening; tester usable in case	12.70
369-T	310, 310-C, 310-FET	Neck-strap style; tester usable in case	12.20
379	310-10-101	With storage for leads	10.20
639	630 Series	Top opening style	16.10
639-N	630 Series	Front opening; tester usable in case	16.10
639-P	630 Series	Top opening style with foam padding	22.80
639-OS	630 & 600 Series, 6028	Front opening; tester usable in case	18.70
669	666-R	Top opening style	10.70
669-OS	666-R	Front opening; tester usable in case	11.60
859-OP	800 & 850	Front opening; with foam padding	29.60
10-2467	801	Front opening; with foam padding	37.70

NEW DIODE-PROTECTED, HAND-SIZE V-O-M'S



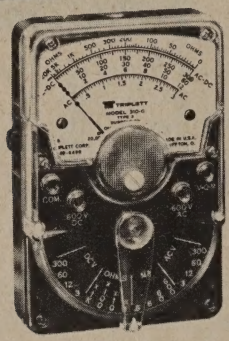
Model 310

MODEL 310

1. Hand-size V-O-M with diode overload protection.
2. 20,000 ohms per volt DC and 5,000 ohms per volt AC.
3. Single range switch; provision for clamp-on AC ammeter.

RANGES

DC Volts: 0–3–12–60–300–1,200 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–1,200 (5,000 ohms per volt).
Ohms: 0–20K–200K–2 Meg–20 Meg.
DC Microamperes: 0–600 at 250 mV.
DC Milliamperes: 0–6–60–600 at 250 mV.
Accuracy: ±3% DC; ±4% AC.
Scale Length: 2⅛". Self-shielded.
Case: Molded, black, 2¾" w. x 1⅝" d. x 4¼" h.
Batteries: NEDA #910,220.
Triplett Model 310—Complete with 42" leads, batteries and instruction manual. Shpg. Wt., 2 lbs. Net Each.....**$49.00**

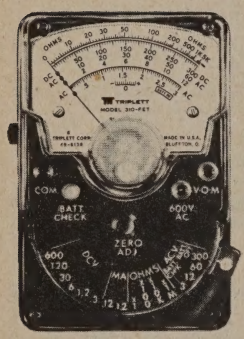


Model 310-C

MODEL 310-C

1. Hand-size V-O-M with diode overload-protected suspension movement.
2. 20,000 ohms per volt DC and 15,000 ohms per volt AC.
3. Single, enclosed range switch minimizes error; DC polarity-reversing switch.

Same as 310 above, except 600-volt ranges replace 1200-volt ranges; plus, suspension meter and polarity reversing switch for DC ranges.
Triplett Model 310-C—Shpg. Wt., 2 lbs. Net Each.....**$65.00**



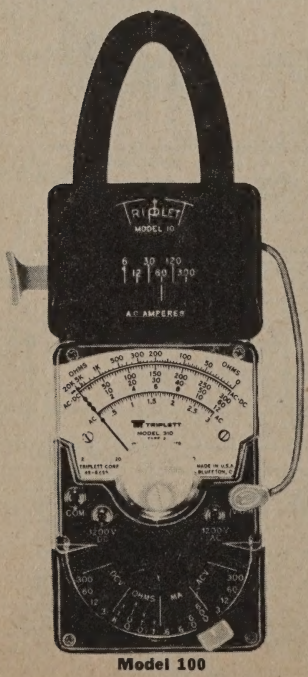
Model 310-FET

MODEL 310-FET

1. Hand-size FET V-O-M with 10-megohm DC input resistance and diode overload-protected suspension movement.
2. Low voltage range of 300 mVDC; x1 megohm range.
3. Single range switch; DC polarity-reversing switch.

RANGES

DC Volts: 0–0.3–1.2–6–30–120–600. Input resistance, 10 megohms.
AC Volts: 0–3–12–60–300–600 (5,000 ohms per volt).
Ohms: 0–5K–500K–50 Meg–5,000 Meg (50-ohm center scale on low range).
DC Milliamperes: 0–0.12–1.2 at 300 mV.
Accuracy: ±3% DC; ±4% AC. Diode protected suspension meter.
Scale Length: 2⅛". Battery check on selector switch.
Case: Molded, black, 2¾" w. x 1⅛" d. x 4¼" h.
Batteries: NEDA #1501, 1½ V ASA Type N.
Triplett Model 310-FET—Complete with 42" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 2 lbs. Net Each.....**$88.00**



Model 100

Model 10

Model 101

ACCESSORIES FOR 310'S

Model 10 Clamp-on AC Ammeter—For 310 and 310-FET. Ranges, 0–6–12–30–120–300. Net Each.....**$24.00**

Model 10-C Clamp-on AC Ammeter—For 310-C. Ranges, 0–6–12–30–120–300. Net Each.....**$24.00**

Model 101 Line Separator—Divides two conductor cords direct or increases Model 10 sensitivity 10x and 20x. Net Each.....**$10.00**

Model 311 Lead—42" long lead to separate Model 10 from 310 unit for easy reading in awkward spots. Net Each.....**$4.50**

Model 369 Carrying Case—For Model 310's. Net Each... **5.80**

Model 369-S Carrying Case—For Model 310's; front opens permitting use of tester in case. Net Each.....**$13.70**

Model 379 Carrying Case—For Model 310 and Model 10 in combination, plus Model 101. Net Each.....**$11.00**

Model 79-153 Needle Tip Replacement Lead—For Model 310 series. Net Each.....**$4.50**

Model 79-296 Blunt Tip Replacement Lead—For Model 310 series. Net Each.....**$6.90**

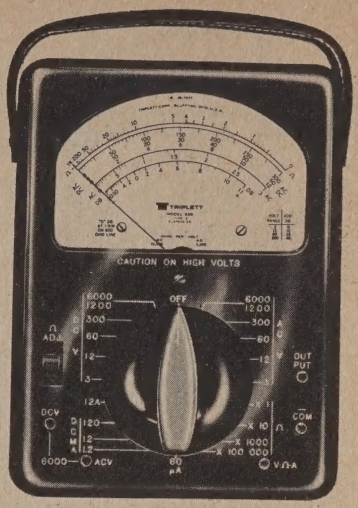
HAND-SIZE V-O-M CLAMP-ON AMMETERS

1. Complete maintenance kit with V-O-M and clamp-on ammeter.
2. Diode overload protected; 20,000 ohms per volt on DC.
3. AC clamp-on will read up to 300 amps AC.

Model 100—Complete set includes Model 310, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each.....**$92.00**
Model 100-C—Complete set includes Model 310-C, Model 10-C, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each.....**$104.00**
Model 100-FET—Complete set includes Model 310-FET, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each.....**$130.00**

MODEL 630 V-O-M

1. Diode overload-protected suspension movement V-O-M; single range switch minimizes error.
2. 4 ohmmeter ranges with 4.4 ohms center scale.
3. Simplified scale—only 4 arcs for all 27 ranges.

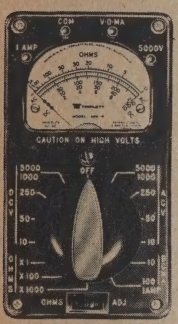


RANGES

DC Volts: 0–3–12–60–300–1,200–6,000 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–1,200–6,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–60 at 250 mV.
DC Milliamperes: 0–1.2–12–120 at 250 mV.
DC Amperes: 0–12.
Decibels: −20 to +51 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4⅜".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each..... **$76.00**

Triplett Model 630-A—Similar to 630 with accuracy of ±1½% DC, ±3% AC. Net Each..... **$89.00**



MODEL 666-R V-O-M

1. Rugged 16-range V-O-M; single range switch minimizes error.
2. 3 ohmmeter ranges reading to 3 megohms.
3. AC and DC voltage ranges from 10 to 5000 volts.

RANGES

DC Volts: 0–10–50–250–1,000–5,000 (1,000 ohms per volt).
AC Volts: 0–10–50–250–1,000–5,000 (1,000 ohms per volt).

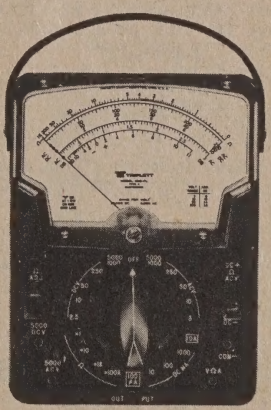
RANGES (CONT'D)

Ohms: 0–3K–300K–3 Meg (20-ohm center scale on low range).
DC Milliamperes: 0–10–100 at 250 mV.
DC Amperes: 0–1 at 250 mV.
Accuracy: ±3% DC; ±4% AC.
Scale Length: 3".
Case: Molded, black, 3 1/16" w. x 2 9/16" d. x 5⅞" h.
Batteries: NEDA #814, 13F.

Triplett Model 666-R—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 3 lbs. Net Each..... **$55.00**

MODEL 630-PL V-O-M

1. 27-range V-O-M with single range switch minimizes error; DC polarity-reversing switch.
2. 5" suspension meter with diode overload protection.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

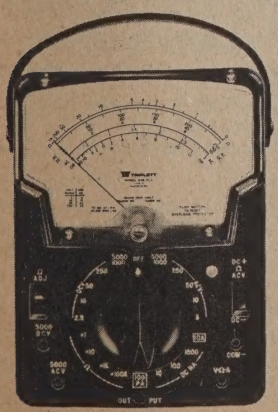


RANGES

DC Volts: 0–2.5–10–50–250–1,000–5,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000–5,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: −20 to +49 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-PL—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each..... **$81.00**

Triplett Model 630-APL—Similar to 630-PL with accuracy of ±1½% DC, ±3% AC. Net Each..... **$91.00**



MODEL 630-PLK V-O-M

1. Burnout-proof solid state overload protection; suspension movement.
2. Single range switch minimizes error; DC polarity-reversing switch.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

RANGES

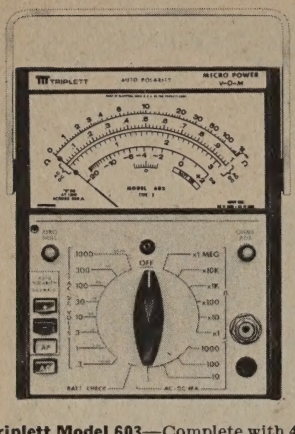
DC Volts: 0–2.5–10–50–250–1,000–5,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000–5,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: −20 to +49 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½". Transistorized electronic switching circuit protects tester against burn-out.
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-PLK—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each..... **$125.00**

Triplett Model 630-APLK—Similar to 630-PLK with accuracy of ±1½% DC; ±3% AC. Net Each..... **$135.00**

TRIPLETT Test Instruments

MODEL 603 V-O-M



1. FET V-O-M with Auto-Polarity—convenient and time saving.
2. Low-Power-Ohms—6 ranges with 70 mV power source for in-circuit measurements without component damage.
3. Exclusive Triplett Micro Power—Provides battery life in excess of a year for carbon batteries.

RANGES

DC Volts: 0–0.3–1–3–10–30–100–300–1,000. Input resistance, 11.12 megohms with 1.12 meg in probe.

AC Volts: 0–0.3–1–3–10–30–100–300–1,000. Input impedance, 10 megohms. Frequency range, 20 Hz to 10 kHz.

Ohms—Low Power: 0–1K–10K–100K–1 Meg–10 Megs–1000 Megs (70 mV open circuit voltage, 123 μW maximum power applied to device under test, 10 ohms center scale on low range).

Ohms: 0–1K–10K–100K–1 Meg–10 Megs–1,000 Megs (1.5 V open circuit voltage, 56 mW max. power applied to device under test, 10 ohms center scale on low range).

AC and DC Milliamperes: 0–1–10–100–1,000 at 316 mV.

Decibels: −30 to +62 ("0" dB is equal to .776 V).

Accuracy: ±3% all voltage ranges and ohms; ±4% all current ranges.

Meter: Diode overload protected suspension movement.

Scale Length: 4⅛".

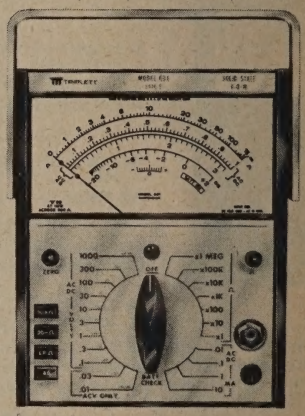
Case: Shielded molded, black, 5⅛" w. x 3³⁄₁₆" d. x 6½" h.

Batteries: 2 NEDA 9 V 1604, 1½ V 13F cell.

Triplett Model 603—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.... **$173.00**

MODEL 601 V-O-M

1. Low power ohms—7 ranges with 75 mV power source.
2. High sensitivity—10 mV AC full scale at 10 megohms input impedance; 100 mVDC at 11 megohms input resistance.
3. Simplified scale—only 4 arcs for all 53 ranges.



RANGES

DC Volts: 0–0.1–0.3–1–3–10–30–100–300–1,000. Input resistance 11 megohms with 690K series resistor in probe tip. Includes 40 dB, 60 Hz rejection.

AC Volts: 0–0.01–0.03–0.1–0.3–1–3–10–30–100–300–1,000. Input impedance, 10 megohms. Frequency range, 50 Hz to 50 kHz. Capacitance at input jack, 60 pF max.

Ohms—Low Power: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (75 mV and 10 ohms center scale on low range).

Ohms—Conventional: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (1.5 V and 10 ohms center scale on low range).

AC and DC Milliamperes: 0–0.01–0.1–1–10 at 100 mV.

Decibels: −60 to +62 ("0" dB is equal to .775 V).

Accuracy: DC ±2% Voltage, ±3% Current; AC ±3% Voltage, ±4% Current. Diode protected suspension meter.

Scale Length: 4⅛".

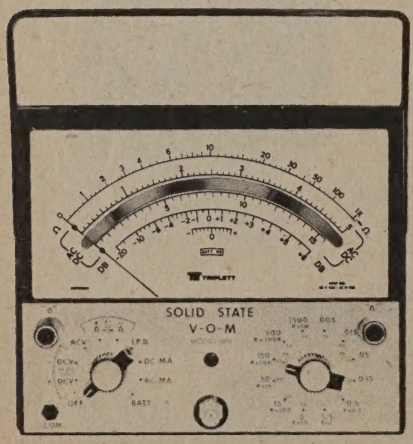
Case: Molded, black, 5⅛" w. x 3³⁄₁₆" d. x 6½" h.

Batteries: 10 NEDA #15A.

Triplett Model 601—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.... **$205.00**

Triplett Model 60-407 AC Current Leakage Adapter—Leakage readings, 7 ranges from 100 μA FS to 30 mA FS at 1500 ohms impedance (commercial appliances). Resolution, 0.2 μA lowest VOM range. Accuracy, ±4% FS. Net Each..... **$31.10**

MODEL 801 V-O-M



1. Low power ohms—8 ranges with 35 mV power source and 1 ohm center scale.
2. High sensitivity—5 mVAC full scale at 10 megohms input impedance; 50 mVDC at 11 megohms input resistance.
3. Simplified scale—8" meter with only 4 arcs for all 73 ranges.

RANGES

DC Volts: 0–0.05–0.15–0.5–1.5–5–15–50–150–500–1,500. Input resistance, 11 megohms with 1 megohm series resistor in probe tip. Includes 40 dB, 60 Hz rejection.

AC Volts: 0–0.005–0.05–0.15–0.5–1.5–5–15–50–150–500–1,500. Input impedance, 10 megohms. Frequency range, 50 Hz to 50 kHz. Capacitance at input jack, 60 pF max.

Ohms—Low Power: 0–100–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (35 mV and 1 ohm center scale on low range).

Ohms—Conventional: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (1.5 V and 10 ohms center scale on low range).

AC and DC Microamperes: 0–5–15–50–150–500 at 45 mV.

AC and DC Milliamperes: 0–1.5–5–15–50–150–500 at 45 mV.

AC and DC Amperes: 0–1.5 at 45 mV (optional external shunt for 0–15 A measurements).

Decibels: −70 to +66 ("0" dB is equal to .775 V).

Accuracy: DC ±2% Voltage, ±3% Current; AC ±3% Voltage, ±4% Current. Diode protected suspension meter.

Scale Length: 6¾".

Case: Molded, black, 8" w. x 5" d. x 7" h.

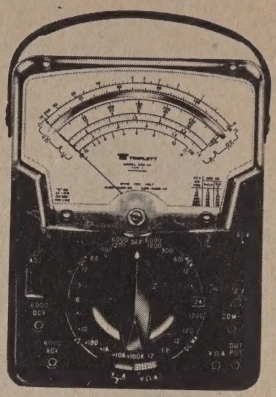
Batteries: NEDA #1604, 13F.

Triplett Model 801—Complete with 48" shielded probe, 25" grd. lead, alligator clips, batteries and instruction manual. Net.... **$255.00**

Triplett Model 91-620 Shunt Adapter—15 amperes. Net Each..... **13.10**

Triplett Model 60-413 AC Current Leakage Adapter—Leakage readings, 7 ranges from 10 μA FS to 30 mA FS at 500 ohms impedance (type A medical) or 1500 ohms impedance (commercial appliances). Resolution, 0.2 μA lowest VOM range. Accuracy, ±4% FS. Net Each..... **$37.30**

MODEL 630-NA V-O-M



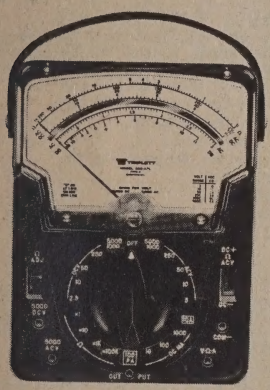
1. 70-range V-O-M with single range switch and DC polarity-reversing switch.
2. Accuracy 1½% DC and 3% AC; mirrored scale.
3. Diode overload-protected suspension movement; temperature compensation.

RANGES

DC Volts: 0–0.6–3–12–60–300–1,200–6,000 (10,000 ohms per volt). 0–0.3–1.5–6–30–150–600–3,000 (20,000 ohms per volt). 0–0.120 at 60 μA. 0–0.240 at 120 μA.
AC Volts: 0–3–12–60–300–1,200–6,000 (5,000 ohms per volt). 0–1.5–6–30–150–600–3,000 (10,000 ohms per volt).
Ohms: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–60–600 at 120 mV; 0–120 at 240 mV.
DC Milliamperes: 0–6–60–600 at 120 mV; 0–1.2–12–120–1,200 at 240 mV.
DC Amperes: 0–6 at 120 mV; 0–12 at 240 mV.
Decibels: −26 to +51 ("0" dB at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt). 0–1.5–6–30–150 (10,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-NA—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Each.....**$112.00**

Triplett Model 630-NS—Similar to 630-NA with 200,000 ohms per VDC and 20,000 ohms per VAC. Net Each.....**$134.00**



MODEL 630-APL V-O-M

1. Accuracy 1½% DC and 3% AC; mirrored scale; diode overload-protected suspension movement.
2. 27 range V-O-M with single range switch minimizes error; DC polarity reversing switch.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

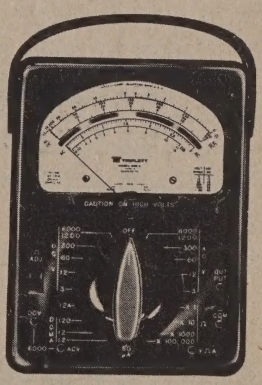
RANGES

DC Volts: 0–2.5–10–50–250–1,000–5,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000–5,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: −20 to +49 ("0" dB at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-APL—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$91.00**

Triplett Model 630-APLK—Similar to 630-APL with burn-out proof solid state overload protection. Net Each.....**$135.00**

MODEL 630-A V-O-M



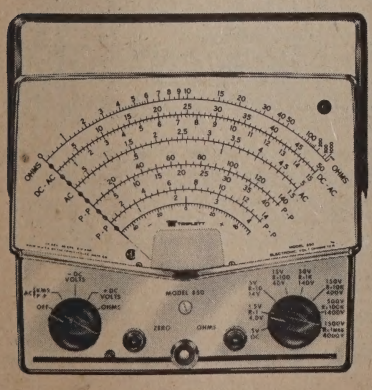
1. Diode overload-protected V-O-M with suspension movement; accuracy 1½% DC and 3% AC.
2. 4 ohmmeter ranges with 4.4 ohms center scale.
3. Simplified mirrored scale; only 4 arcs for all 27 ranges.

RANGES

DC Volts: 0–3–12–60–300–1,200–6,000 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–1,200–6,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–60 at 250 mV.
DC Milliamperes: 0–1.2–12–120 at 250 mV.
DC Amperes: 0–12 at 250 mV.
Decibels: −20 to +51 ("0" dB at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4⅜".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-A—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$89.00**

Triplett Model 630—Similar to 630-A with accuracy of ±2% DC, ±3% AC. Net Each.....**$76.00**



MODEL 850 VTVM

1. 8" meter with six scales for easy readability.
2. 29-range VTVM with 11-megohm DC input resistance.
3. Color-coded scales for peak-to-peak measurements.

RANGES

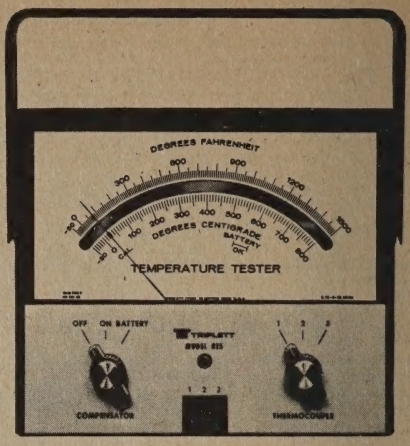
DC Volts: 0–0.5–1.5–5–15–50–150–500–1,500 (Input resistance, 11 megohms).
AC rms Volts: 0–1.5–5–15–50–150–500–1,500 (Input impedance, min. 0.83 megohm).
Peak-to-Peak Volts: 0–4–14–40–140–400–1,400–4,000.
Ohms: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (10 ohms center scale on low range).
Accuracy: ±3% DC; ±3% AC. Electrical protection of meter against burn out.
Scale Length: 7".
Frequency: 15 Hz to 3 MHz.
Case: Molded, black, 7⅝" w. x 3¾" d. x 6 7/16" h.
Battery: NEDA #814.

Triplett Model 850—Complete with 48" leads, alligator clips, battery and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$131.00**

TRIPLETT Test Instruments

MODEL 825 TEMPERATURE TESTER

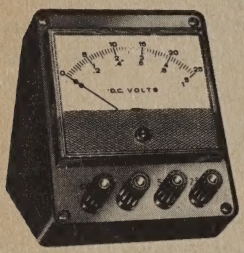
1. Measures −50° F to +1500° F and −50° C to +800° C.
2. Large easy to read 8″ dial with mirror scale.
3. Electrical compensation for ambient temperature.

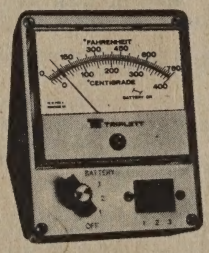


SPECIFICATIONS

Ranges: −50° F to +1500° F; −50° C to +800° C.
Sensor Type: Thermocouple, type K (Chromel-Alumel*), 5 ohms (±1%) resistance.
Compensation: Electrical.
Accuracy: Better than ±2% of full scale reading. For more details contact factory.
Meter: Suspension movement with 6¾″ scale length.
Inputs: 3, switch selected.
Case: Molded, black, 7⅝″ w. x 4½″ d. x 6¾″ h.
Battery: NEDA 13F.

Triplett Model 825—Complete with 10-ft. thermocouple probe, battery and instruction manual. Shpg. Wt., 4½ lbs. Net Each **$126.00**
*Hoskins Mfg. Trademark.





G/P PORTABLE INSTRUMENTS

1. Wide clear view plastic meter, with Bar-Ring DC movements.
2. Overload protection on all models. (Diodes on DC, Fused AC.)
3. Unbreakable molded black plastic cases with aluminum panels.

- ±2% accuracy on DC and AC Iron Vane Types.
- ±3% accuracy on AC Rectifier Type and Ohms.
- ±3% or better accuracy on temperature.
- 3½″ Model 320-G panel instrument.
- Five-way binding posts or three switched inputs.
- DC movements diode protected.
- AC movements fuse protected.
- Temperature unit electrically compensated.
- Case molded, black, 3⅜″ w. x 4¼″ d. x 4¼″ h.

DC TYPE 320-G/P

Range	Net Each
0–1–5–25 V (1000 ohms/V)	$39.20
0–25–100–500 V (1000 ohms/V)	40.10
0–6–60–600 V (1000 ohms/V)	40.10
0–50 μA (2300 ohms resis.)	37.00
500–25–0–25–500 μA (6250 ohms resis.)	41.30
0–0.25–1–5 mA	38.20
0–25–100–500 mA	38.70
0–1–10–100 mA	38.70
0–1–5–25 A	39.20
0–50–100–250 mV*	38.70
0–3–15 A	35.40
0–10–50–250 μA (suspension)	74.90
40–0–40 μA (suspension) null meter (1700 ohms resis.)	51.50

*May be used with any of several standard switchboard shunts to extend range to higher currents.

AC IRON VANE TYPE 330-G/P

0–120–600 V (83 ohms/V) and 0–12 mA	$53.10
0–5–25 V (4 ohms/V) and 0–250 mA	39.60
0–30–120 V (17 ohms/V) and 0–60 mA	41.10
0–150 V (12 ohms/V)	31.50
0–1 A (3 ohms resis.)	29.80
0–5 A (.015 ohm resis.)	29.80
0–25 A (.002 ohm resis.)	29.80

AC RECTIFIER TYPE 350-G/P

Range	Net Each
0–6–60–600 V (1000 ohms/V)	$63.60

OHMMETERS TYPE 320-G/P

Includes battery and test leads.

0–1K–100K (10–1000 center scales) (1.5 V battery)	$43.40
0–1–100 meg (5K–500K ctr. scales) (30 V battery)	50.10

RF VOLTS TYPE 340-G/P AND WATTS TYPE 360-G/P

0–2.5 V (240 ohms/V)	$60.30
0–150 W (150 V, 2A max.)	64.00

TEMPERATURE TYPE 320-G/P

Suspension type; includes 5-ft. thermocouple probe, 1.5 volt C battery and instruction manual.

−150° F to +250° F; −100° C to +120° C	$70.00
0° F to +500° F; −20° C to +260° C	70.00
0° F to +750° F; −20° C to +400° C	70.00
0° F to +1000° F; −20° C to +540° C	70.00

ACCESSORIES

79-127 test leads for G/P series except temp. meters	$4.50
79-310 5-ft. thermocouple probe for temp. meters	10.60

ACCESSORIES

REPLACEMENT LEADS

No.	For Tester	Description	Net Each
79-160	Model 10 plus any 630 with 3 VAC scale at 5000 ohms/V	6-ft. lead using Model 10 as clamp-on ammeter with 630 series as noted	$ 4.50
79-153	Model 310 series	Needle nose test leads	4.50
79-296	Model 310 series	Blunt nose test leads	6.90
79-267	Model 601	Test lead	17.90
79-261	Models 601 & 602	Black ground lead	3.20
79-288	Model 602	Test lead	17.90

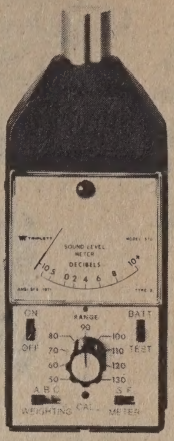
No.	For Tester	Description	Net Each
79-127	Model 630 series, 666-R, 990, 6028, G/P	Test leads	$ 4.50
79-290	Model 801	Probe only	12.50
79-291	Model 801	Shielded lead	7.30
79-311	Model 825	Thermocouple probe	15.60
79-192	Model 850	Test leads	10.20
79-214	Model 850	Black ground lead	2.00
79-320	Model 8035	Test leads	11.90

BLACK COWHIDE CASES

Model	For Tester	Description	Net Each
369	310, 310-C, 310-FET	Top opening with trouser loop on back	$ 5.80
369-S	310, 310-C, 310-FET	Front opening; tester usable in case	13.70
369-T	310, 310-C, 310-FET	Neck-strap style; tester usable in case	13.10
379	310-10-101	With storage for leads	11.00
639	630 Series	Top opening style	17.30
639-N	630 Series	Front opening; tester usable in case	17.30
639-P	630 Series	Top opening style with foam padding	24.50
639-OS	630 & 600 Series, 6028	Front opening; tester usable in case	20.10
669	666-R	Top opening style	11.50
669-OS	666-R	Front opening; tester usable in case	12.50
859-OP	800 & 850	Front opening; with foam padding	31.80
10-2467	801	Front opening; with foam padding	40.50

MODEL 370 SOUND LEVEL METER—TYPE 3

1. General purpose sound pressure level meter; meets or exceeds ANSI S1.4-1971 Type 3 for OSHA requirements.
2. Omni-directional ceramic microphone; selectable A, B, C weighted response.
3. "Fast" and "Slow" meter response; can be acoustically calibrated.



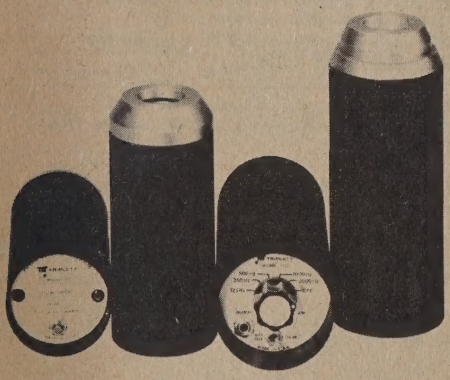
SPECIFICATIONS

Measuring Range: 40 dB to 140 dB (ref. .0002 microbar) in 10 dB increments.
Weighting Network: A, B and C weighting in accordance with ANSI standard S1.4-1971 for Type 3 meters.
Microphone: Lead-Zirconate-Titanate Ceramic unit. 1⅜" O.D.
Accuracy: Exceeds ANSI standard S1.4-1971 for Type 3 sound level meters.
Output: Approximately 100 mV rms into a 10K ohm load for full scale meter reading. Less than 10 ohms output impedance.
Calibration: Can be calibrated at frequencies from 125 Hz to 2000 Hz.
AC Output: Output jack supplied analog output signal of approximately 100 mV rms capable of being fed into external magnetic fed tape recorders, octave band analyzers or other similar analytical equipment.
Operating Temperature: 20° F to 125° F (−7° C to 50° C); temperature coefficient, +.02 dB/° F (+.036 dB/° C).
Storage Temperature: 0° F to 150° F (−18° C to 65° C) with battery removed.
Operating Humidity: 5% to 85% relative humidity.
Meter: Quasi rms response with fast and slow meter speeds; suspension type movement with 1.5" dial length.
Case: Flat black aluminum with high impact plastic cone; 3" w. x 2" d. x 7¼" h. Weight, 1 lb. with batteries.
Batteries: Two 9 volt NEDA 1604.

Triplett Model 370 (Type 3)—Complete with batteries and instruction manual. Net Each.....**$250.00**

Triplett Model 375 (Type 2)—Similar to Model 370 above, except meets all ANSI S1.4-1971 requirements for Type 2 sound level meters. Complete with batteries and instruction manual. Net Each.....**$325.00**

SOUND LEVEL CALIBRATORS



MODEL 372 MULTI-FREQUENCY CALIBRATOR

1. Acoustic calibrator generates 100 dB or 114 dB sound pressure level at ANSI preferred frequency levels of 125 Hz, 250 Hz, 500 Hz, 1000 Hz or 2000 Hz.
2. Three-position toggle switch selects 100 dB or 114 dB levels and battery check. Six position switch selects the five frequencies and turns unit on and off.
3. Ruggedized unit calibrates all Triplett sound level measuring units using pressure level of 110 dB or 114 dB.

SPECIFICATIONS

Frequencies: 125, 250, 500, 1000 and 2000 Hz ±3%.
Sound Pressure Level: 100 dB or 114 dB (ref. .0002 microbar).
Accuracy: ±0.3 dB at 500 Hz; ±0.5 dB at all other frequencies; measured at 73.5° F (23° C) and 760 mm Hg.
Temperature Coefficient: Between 0 and −.006 dB/° F (−0.01 dB/° C).
Operating Temperature: 32° F to 125° F (0° C to 50° C).
Operating Humidity: 5% to 85% relative humidity.
Microphone Size: For 1" and ½" outside diameter.
Case: Aluminum, 2¼" dia. x 5¾" lg. Weight, 1 lb. with batteries.
Batteries: One 9 volt NEDA 1600.

Triplett Model 372—Complete with pressure correction chart, battery, adapter for ½" microphone and instruction manual. Net Each..**$240.00**

MODEL 371 ACOUSTIC CALIBRATOR

1. Generates 114 dB sound pressure level at ANSI preferred frequency level of 1000 Hz.
2. Single pushbutton simultaneously operates output signal and battery check light.
3. Ruggedized unit, calibrates all Triplett sound measuring units using sound pressure level of 14 dB.
4. Same specifications as Model 372, except Model 371 has one frequency output (1000 Hz ±3%).
5. Aluminum case, 2" dia. x 4⅝" lg.

Triplett Model 371—Complete with pressure correction chart, battery, adapter for ½" microphone and instruction manual. Net Each..**$125.00**

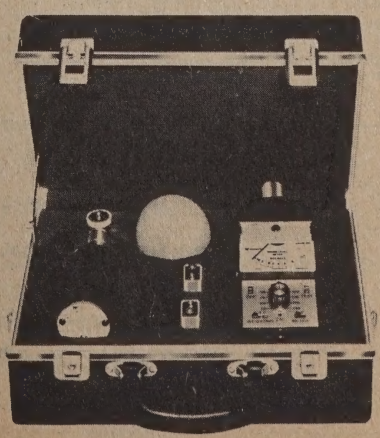
SOUND LEVEL KITS

Triplett Model 370-K1—Includes Model 370 sound level meter (type 3), Model 371 acoustic calibrator (1 frequency with adapter for ½" microphone), neck strap for Model 370, foam wind screen, molded plastic case, batteries, and instruction manual. Net Each.....**$397.00**

Triplett Model 370-K2—Includes Model 370 sound level meter (type 3), Model 372 acoustic calibrator (five frequencies with adapter for ½" microphone), neck strap for Model 370, foam wind screen, molded plastic case, batteries and instruction manual. Net Each.....**$512.00**

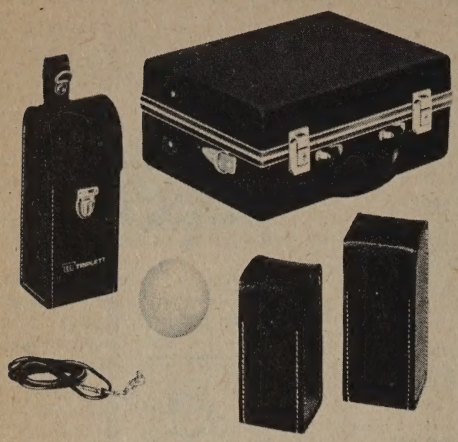
Triplett Model 375-K1—Includes Model 375 sound level meter (type 2), Model 371 acoustic calibrator (one frequency with adapter for ½" microphone), neck strap for Model 375, foam wind screen, molded plastic case batteries and instruction manual. Net Each.....**$472.00**

Triplett Model 375-K2—Includes Model 375 sound level meter (type 2), Model 372 acoustic calibrator (five frequencies with adapter for ½" microphone), neck strap for Model 375, foam wind screen, molded plastic case, batteries and instruction manual. Net Each.....**$587.00**



TRIPLETT

SOUND MEASURING AND TEST INSTRUMENTS



ACCESSORIES

Triplett Number 10-2693—Leather carrying case for Models 370 and 375 (includes neck strap). Net Each **$10.50**

Triplett Model 10-2694—Leather carrying case for Model 371. Net. **$5.70**

Triplett Model 10-2695—Leather carrying case for Model 372. Net. **$6.30**

Triplett Model 10-2712—Molded plastic case for sound level kits. Net Each **$21.50**

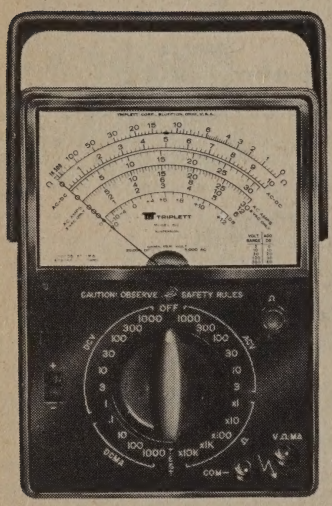
Triplett Number 3206-56—Neck strap for Models 370 and 375. Net Each **$0.60**

Triplett Number 12308—Wind screen (package of 4) for Models 370 and 375. Net per Package **$10.80**

Triplett Number 10-2700—Microphone cap for Models 370 and 375. Net Each **$0.30**

Triplett Number 156-1—Recorder chart paper for Model 380, 75 foot roll. Net per Roll **$4.80**

MODEL 60 V-O-M



1. Drop-proof, protects against accidental drops up to five feet.
2. Burnout-proof, diode and fuse protection up to 1000 volts.
3. Super-Safe—designed to prevent explosive arcs under misuse conditions, in circuits up to 1000 volts.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).
AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).
Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).
DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).
Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).
Output Volts: (AC): 0–3–10–30–100–300 (approx. 5000 ohms per volt).
AC Amperes: (Requires accessory Model 10 Adapter) 0–6–12–30–60–120–300.
Accuracy: ±2% DC; ±3% AC.
Scale Length: Approx. 4½".
Case: Molded, black, 5¼" w. x 7¼" h. x 3¼" d.
Batteries: Neda #1604, 1–1½V D cell.

Triplett Model 60—Complete with 48" leads, insulated alligator clips, batteries and instruction manual. Shpg. wt. 2½ lbs. Net Each **$90.00**

Triplett Model 60-A—Similar to 60 with ±1½% DC accuracy and a mirror scale. Net Each **$100.00**

Triplett Model 60-K—Similar to 60 with Model 10 AC Adapter, Model 101 Line Separator, Model 10 attachment lead and leather case. Net Each **$150.00**

ACCESSORIES FOR 60

Triplett No. 10-2739—Leather Carrying Case. Net Each **$22.90**

Triplett No. 79-357—30KVDC High Voltage Probe. Net Each **$24.50**

Triplett No. 79-362—30KVAC High Voltage Probe. Net Each **$24.50**

Triplett No. 91-628—30 amp DC Current Shunt. Net Each **$17.50**

Triplett No. 91-629—100 amp DC Current Shunt. Net Each **$21.50**

Triplett No. 60-211—Clamp-on AC Ammeter. Net Each **$24.00**

Triplett No. 79-354—Attachment Lead. Net Each **$4.50**

Triplett No. 60-218—Line Separator. Net Each **$10.00**

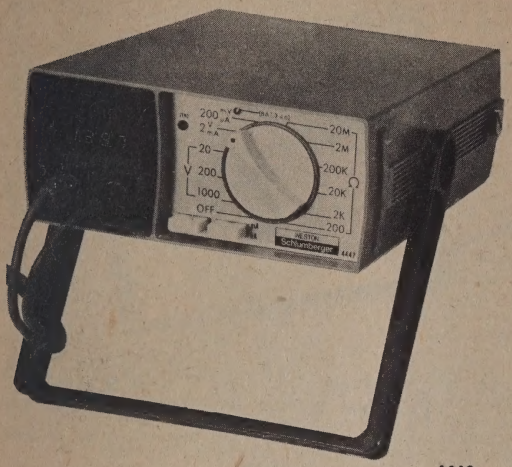
Triplett No. 79-373—Clip Leads for High Density Circuits. Net Each **$5.50**

Triplett No. 79-374—Replacement Safety Test Leads. Net Each **$4.70**

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,
WE CAN SUPPLY ALL YOUR REQUIREMENTS,
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABILITY.
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

WESTON® DIGITAL TEST INSTRUMENTS

MODEL 4442 DIGITAL MULTIMETER



4442, 4443

1. Low cost, 3½ digit, solid state portable multimeter for lab or field use.
2. Up to 12 hours of continuous use on self contained batteries or 117 VAC operated.
3. LED readouts, dual slope high impedance, bi-polar A/D converter for excellent accuracy and long term stability.
4. Single MOS LSI plug-in chip for all logic circuitry.
5. Automatic blanking of unused digits, overload protection with spare fuses.
6. Overrange indicated by blinking "1" in "thousands" place with polarity and decimal on; balance of digits blanked out except LSD.

RANGES

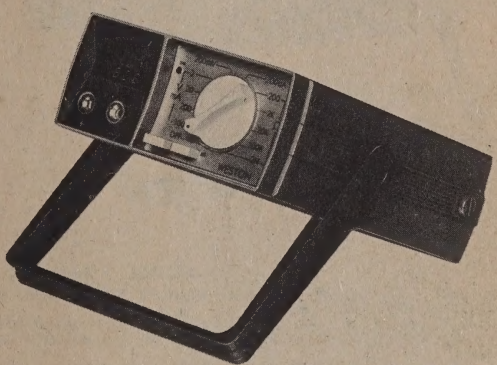
DC Volts: 0–199.9 mV; 0–1.999–19.99–199.9–1000 volts.
AC Volts: 0–199.9 mV; 0–1.999–19.99–199.9–1000 volts.
DC Current: 0–1.99 μA; 0–1.999 mA.
AC Current: 0–199.9 μA; 0–1.999 mA.
Resistance: 0–199.9–1.999K–19.99K–199.9K–1.999M–19.99M ohms.
Conversion Rate: Approx. four per second.
Common Mode Rejection Ratio: 80 dB (approaches infinity on battery).
Normal Mode Rejection Ratio: 38 dB.
Temperature: 25° C ±3° C with guaranteed accuracy (operable from 0° to 50° C—derate accuracy).
Power Required: Four "C" size nickel cadmium cells (supplied); 115 VAC, 50–400 Hz.
Size: 5.45″ w. x 7″ d. x 2.25″ h. Weight, less than 2½ lbs.
Weston Model 4442 Digital Multimeter—Includes test probes and 117 VAC battery charger/AC converter. List Price . . . **$295.00***
Weston Model 4443 Digital Multimeter—Similar to Model 4442, but reads only DC current and voltage, and resistance. Ranges same as Model 4442. List Price **$250.00***

MODEL 4440 PORTABLE DIGITAL MULTIMETER

1. Lightweight, shock-proof, 3½ digit solid state multimeter for field use.
2. Single MOS LSI plug-in IC chip for all logic circuitry.
3. Overload protection by resistor diode network, fuses, or both.
4. Non-blinking LED readouts; automatic blanking of all unneeded digits except "1" in thousands place.
5. Dual-slope high-impedance bipolar A/D converter.

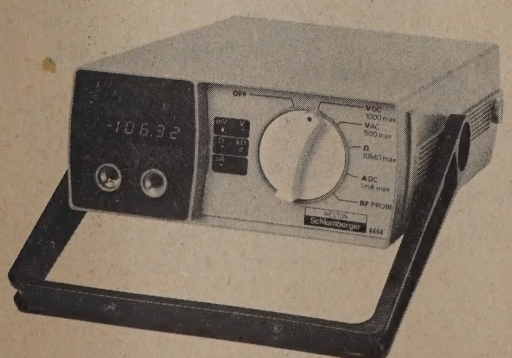
RANGES

DC Volts: 0–199.9 mV; 0–1.999–19.99–199.9–999 volts.
AC Volts: 0–199.9 mV; 0–1.999–19.99–199.9–999 volts.
DC Current: 0–199.9 μA.
AC Current: 0–199.9 μA.
Resistance: 0–199.9–1.999K–19.99K–199.9K–1.999M ohms.
Display: 1999 non-blinking; 0.19″ character size.
Conversion Rate: Approx. 4 per second.
Common Mode Rejection: 80 dB.
Normal Mode Rejection: 35 dB.
Temperature: 15° C to 35° C (10° C to 50° C with derated accuracy).
Power Required: Rechargeable or standard "C" batteries or 115 VAC, 50–400 Hz.
Size: 5.45″ w. x 7.25″ d. x 2.25″ h. Weight, less than 2½ lbs.
Weston Model 4440 Digital Multimeter—Comes with four Nicad "C" cells and battery charger. High impact molded plastic case. List Price **$269.00***



4440

MODEL 4444 AC/DC AUTO RANGING DIGITAL MULTIMETER



1. Designed for production testing and lab use.
2. Patented triple slope technique in A/D converter gives a digital dynamic range of six digit bits.
3. Specially designed integrated circuits MOS LSI which is an equivalent of 1500 transistor gates.
4. Bright and clear 4½ digit LED display.
5. Fully automatic decimal point, polarity and units presentation.
6. Overrange indicated by "1" in "ten thousands" position.
7. Fully floating input.

RANGES

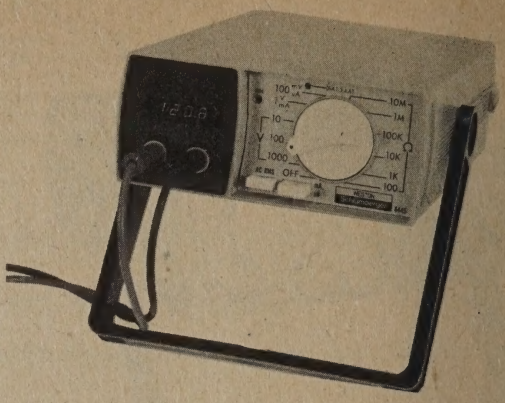
AC Volts: 0–100 mV; 0–1–10–100–500 volts.
DC Volts: 0–100 mV; 0–1–10–100–1000 volts.
DC Current: 0–10–100 μA; 0–1 mA.
Two Terminal Resistance: 0–1K–10K–100K–1M–10M ohms.
Input Sensitivity: 0–1–10–100 nA for DC current; 0–10–100 μV, 0–1–10–100 mV for all others.
Common Mode Rejection: Greater than 120 dB at DC rejection; greater than 130 dB at 60 Hz rejection.
Normal Mode Rejection: Greater than 60 dB at 60 Hz.
Readings/Second: Greater than 3/sec on DC and ohms; greater than 2/sec on AC.
Temperature Range: Operating, 0° to +45° C; storage, −30° C to +70° C.
Power Required: 117/234 VAC (10%–15%), 50/60 Hz.
Size: 5.45″ w. x 7″ d. x 2.25″ h. Shipping Weight, less than 2½ lbs.
Weston Model 4444 Digital Multimeter—Lightweight carrying case available as optional. List Price **$435.00***

★QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —5%; 10-24, —10%; 25 UP, —25%

WESTON® DIGITAL TEST INSTRUMENTS

MODEL 4445 TRUE RMS DMM AC/DC MULTIMETER

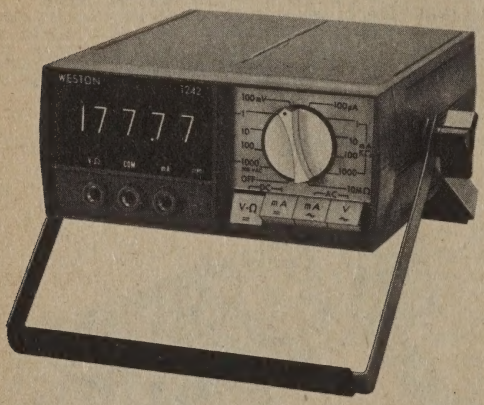
1. Handles odd wave shapes anywhere/anytime.
2. True RMS AC measurements.
3. Fully overload protected—fuse externally replaceable. Shock-proofed.



RANGES

DC Volts: 0–100 mV; 0–1–10–100–1000 volts.
AC Volts: 0–100 mV; 0–1–10–100–1000 volts.
DC Current: 0–100 μA; 0–1 mA.
AC Current: 0–100 μA; 0–1 mA.
Ohms: 0–100–1K–10K–100K–1M–10M ohms.
Display: 1999, -1999 (non-blinking), 0.19″ character size; leading zero blanking—LSD never blanked; automatic polarity.
Conversion Rate: Approx. 4/sec.
Crest Factor (Peak/rms) Value: 4:1 at FS (except where limited by maximum input).
Overrange: 100% (reads 1999) except on 1000 volt range.
Common Mode Rejection Ratio: 80 dB (approaches infinity on battery).
Normal Mode Rejection Ratio: 38 dB.
Temperature: 25° C ±3° C with guaranteed accuracy (operable from 0° C to 50° C—derate accuracy).
Power Required: 4 "C" size nickel cadmium cells or 115 VAC, 50–400 Hz.
Size: 5.45″ w. x 7″ d. x 2.25″ h. Shipping Weight, less than 2½ lbs.
Weston Model 4445 Digital Multimeter—Comes with test probes and 117 VAC battery charger. Optional input shunts available. List Price.....**$470.00***

MODEL 1242 DIGITAL AC/DC MULTIMETER



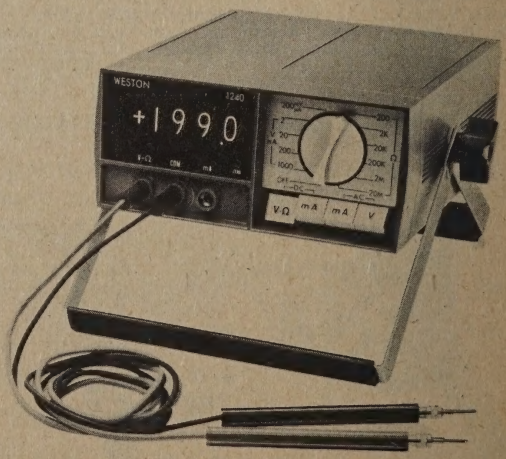
1. Full 4½ digit bipolar digital multimeter features dual slope integration for excellent accuracy and long term stability.
2. Overload protection by resistor diode network, fuses, or both.
3. Carrying handle serves as an adjustable tilt stand.

RANGES

DC Volts: 0–0.1–1–10–100–1000 V with ±0.05% reading accuracy.
AC Volts: 0–100 mV; 0–1–10–100–500 volts with ±0.2% reading accuracy.
DC Current: 0–100 μA; 0–1–10–100 mA with ±0.15% reading accuracy.
AC Current: 0–100 μA; 0–1–10–100 mA with ±0.35% accuracy.
Resistance: 0–1000–10K–100K–1M–10M ohms.
Operating Temperature: 10° C to 40° C.
Overrange: 100% except 1000 VDC and 500 VAC ranges.
Common Mode Rejection: Greater than 80 dB at 60 Hz with 1000 Ω
Normal Mode Rejection: 40 dB at 60 Hz.
Readings: 10 per second (non-blinking display).
Humidity: 85% at 36° C.
Vibration: 5–10 Hz for 1 hr. at 0.4 G; 10–50 Hz for 11 msec at 2 G.
Shock: 50 G on three axes.
Power Required: 115 or 230 VAC, 50–400 Hz, 8.5 watts.
Size: 7″ w. x 7.9″ d. x 3″ h. Weight, 4½ lbs.
Weston Model 1242 Digital Multimeter—List Price.**$595.00***
Weston Model 1243 BCD Digital Multimeter—Has all the features of Model 1242, plus an isolated BCD output in parallel form, compatible with TTL logic at rear of the instrument. Input data, polarity, overrange and decimal point information, as well as functions and ranges set up the range switch, are made available as binary coded output. List Price.....**$695.00***
Weston Model 9740-0269562 Leather Carrying Case—For Models 1242 and 1243. List Price.....**$19.50***

MODEL 1240 DIGITAL AC/DC MULTIMETER

1. Compact multimeter with 26 ranges; single range selector and feather touch function switch.
2. Overload protection through a resistor diode network or fuses.
3. Out-of-range indication with flashing light and polarity indication.
4. High impact glass filled thermoplastic case for shock resistance.



RANGES

DC Volts: 0–0.2–2–20–200–1000 V with ±0.1% reading accuracy.
AC Volts: 0–200 mV; 0–2–20–200–500 volts with 0.5% reading accuracy.
DC Current: 0–200 μA; 0–2–20–200 mA; 0–2 amps.
AC Current: 0–200 μA; 0–2–20–200 mA; 0–2 amps.
Resistance: 0–200–2K–20K–200K–2M–20M ohms.
Temperature Range: 10° C to 40° C.
Common Mode Rejection: 80 dB at 60 Hz with 1000 Ω unbal.
Normal Mode Rejection: 35 dB at 60 Hz.
Readings: 5 per second (non-blinking display).
Humidity: 85% at 36° C.
Vibration: 5–10 Hz at 1 hour at 0.4 G; 10–50 Hz at 11 msec at 2 G.
Shock: 50 G on three axes.
Power Required: 115 or 230 VAC, 50–400 Hz, 6 watts.
Size: 7″ w. x 7.9″ d. x 3″ h.
Weston Model 1240 Digital Multimeter—List Price.**$449.00***
Weston Model 1241 Digital Multimeter—Similar to Model 1240. but reads only DC volts and resistance. List Price..**$303.50***
Weston Model 9740-0269562 Leather Carrying Case—For Models 1240 and 1241. List Price.....**$19.50***

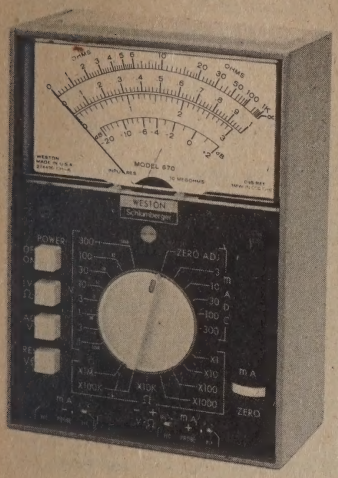
ACCESSORIES FOR SERIES 1240 AND 4440

Weston No.	Description	List*
9970-0271962	High voltage probe, less resistor	$19.00
9970-0272890	990 megohm resistor for 50 kV probe	4.75
9740-270520	Battery pack for 1240, 1241	99.60
9740-270145	Globe gel/cell for 1240, 1241	30.00
9970-0271961	RF probe 0–30 V, 50 MHz for 4440, 4442, 4443, 4445, 1240, 1241	19.50
9740-0273751	Input shunt 2 mA for 4440, 4442, 4443, 4445	16.00
9740-0273752	Input shunt 20 mAfor 4440, 4442, 4443, 4445	16.00
9740-0273753	Input shunt 200 mA for 4440, 4442, 4443, 4445	16.00
9740-0273754	Input shunt 2000 mA for 4440, 4442, 4443, 4445	16.00

★QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —5%; 10-24, —10%; 25 UP, —25%

WESTON® PRECISION TEST INSTRUMENTS

MODEL 670 "IN-CIRCUIT" TESTER

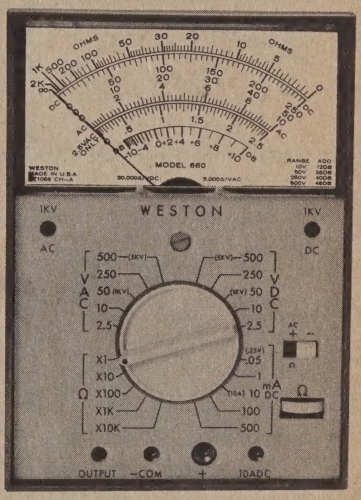


1. FET VOM offers "In-Circuit" DC current measurements on printed circuit boards without breaking connections.
2. Also measures AC/DC volts, conventional "series" DC current, normal power and low power ohms.
3. Automatic polarity and LED annunciators.
4. Overload protection with external fuse replacement.
5. Self storing handle and a special ruggedized taut-band mechanism.

RANGES

DC Millivolt: 0–100–300 mV.
DC Volts: 0–1–3–10–30–100–300 volts.
AC Millivolts: 0–100–300 mV.
AC Volts: 0–1–3–10–30–100–300 volts.
DC Milliamps: 0–3–10–30–100–300 milliamps.
Ohms: RX1 (10 ohms center scale)/RX10/RX100/RX1K/RX10K/RX100K/RX1 megohms; 7 normal and 7 low power ranges.
dB Scales: −40 to −18/−30 to −8/−20 to +2/−10 to +12/0 to +22/+10 to +32/+20 to +42/+30 to +52.
Accuracy: 2% DC volts; 3% AC volts; 5% DC current; 3% (of arc) ohms.
Sensitivity: 11.1 megohms DC, 10 megohms (100 pF) AC.
Power Required: 115 VAC, 60 Hz.
Size: 5″ w. x 2¼″ d. x 7″ h. Weight, less than 2 lbs.
Weston Model 670-2745080 "In-Circuit" Tester—Comes with line cord, standard probes and the special "In-Circuit" current probes. List Price.....**$249.50***

MODEL 660 VOM

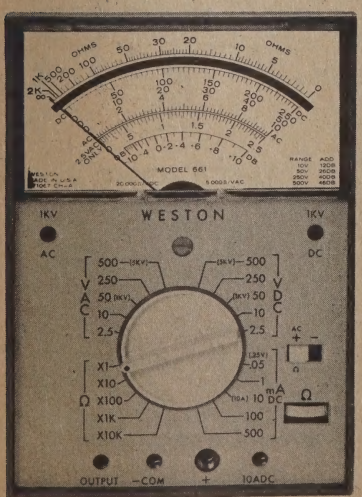


1. Completely drop-proofed; custom ruggedized self-shielded taut-band mechanism.
2. Diode protected meter movement; special calibrated scales for dB measurements.
3. 1% precision resistors used in all critical circuits.
4. Temperature compensated; polarity reversal switch.
5. Single range switch—full range coverage.
6. Externally replaceable fuse.

RANGES

DC Millivolts: 0–250 mV.
DC Volts: 0–2.5–10–50–250–500–1000 volts.
AC Volts: 0–2.5–10–50–250–500–1000 volts.
VAC Output: 0–2.5–10–50–250 volts.
DC Microamps: 0–50 μA.
DC Milliamps: 0–1–10–100–500 mA.
DC Amps: 0–10 amps.
Ohms: RX1 (0–2K) 20 ohms center/RX10 (0–20K) 200 ohms center/RX100 (0–200K) 2000 ohms center/RX1000 (0–2 megs) 20K ohms center/RX10K (0–20 megs) 200K ohms center.
dB Scales: −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56. Measured with 1 mW on 600 ohm line.
Accuracy: 2% DC (1.5% on 50 μA range); 3% AC.
Sensitivity: 20,000 ohms/VDC; 5000 ohms/VAC.
Size: 5″ w. x 2¼″ d. x 7″ h. Weight, less than 2 lbs. (batteries included).
Weston Model 660-2714010 VOM—List Price.....**$72.00***

MODEL 661 HIGH ACCURACY VOM



1. Completely drop-proofed; custom ruggedized self-shielded taut-band mechanism.
2. Mirror scale for greater accuracy.
3. ½% precision resistors used in all critical circuits.
4. Diode protected meter movement; special calibrated scales for dB measurements.
5. Temperature compensated; polarity reversal switch.
6. Externally replaceable fuse—full range coverage.

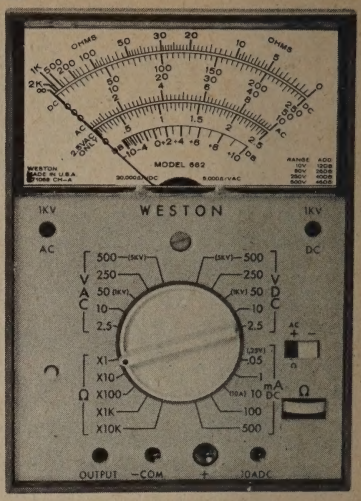
RANGES

DC Millivolts: 0–250 mV.
DC Volts: 0–2.5–10–50–250–500–1000 volts.
AC Volts: 0–2.5–10–50–250–500–1000 volts.
VAC Output: 0–2.5–10–50–250 volts.
DC Microamps: 0–50 μA.
DC Milliamps: 0–1–10–100–500 mA.
DC Amps: 0–10 amps.
Ohms: RX1 (0–2K) 20 ohms center/RX10 (0–20K) 200 ohms center/RX100 (0–200K) 2000 ohms center/RX1000 (0–2 megs) 20K ohms center/RX10K (0–20 megs) 200K ohms center.
dB Scales: −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56. Measured with 1 mW on 600 ohm line.
Accuracy: 1% DC; 2% AC.
Sensitivity: 20,000 ohms/VDC; 5000 ohms/VAC.
Size: 5″ w. x 2¼″ d. x 7″ h. Weight, less than 2 lbs. (batteries included).
Weston Model 661-2714020 High Accuracy VOM—List Price.....**$83.00***

★QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —5%; 10-24, —15%; 25 UP, —20%.

WESTON® PRECISION TEST INSTRUMENTS

MODEL 662 OVERLOAD-PROTECTED VOM

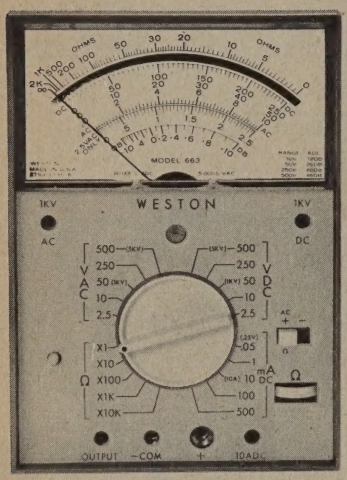


1. Completely drop-proofed; custom ruggedized self-shielded taut-band mechanism.
2. Resettable overload relay circuit—externally replaceable fuse.
3. 1% precision resistors used in all critical circuits.
4. Diode protected meter movement; special calibrated scales for dB measurements.
5. Temperature compensated; polarity reversal switch.
6. Full range coverage.

RANGES

DC Millivolts: 0–250 mV.
DC Volts: 0–2.5–10–50–250–500–1000 volts.
AC Volts: 0–2.5–10–50–250–500–1000 volts.
VAC Output: 0–2.5–10–50–250 volts.
DC Microamps: 0–50 μA.
DC Milliamps: 0–1–10–100–500 mA.
DC Amps: 0–10 amps.
Ohms: RX1 (0–2K) 20 ohms center/RX10 (0–20K) 200 ohms center/RX100 (0–200K) 2K ohms center/RX1000 (0–2 megs) 20K ohms center/RX10K (0–20 megs) 200K ohms center.
dB Scales: −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56. Measured with 1 mW on 600 ohm line.
Accuracy: 2% DC (1.5% on 50 μA range); 3% AC.
Sensitivity: 20,000 ohms/VDC; 5000 ohms/VAC.
Size: 5″ w. x 2¼″ d. x 7″ h. Weight, less than 2 lbs. (batteries included).
Weston Model 662-2714030 Overload-Protected VOM—List Price **$111.50***

MODEL 663 HIGH ACCURACY OVERLOAD-PROTECTED VOM

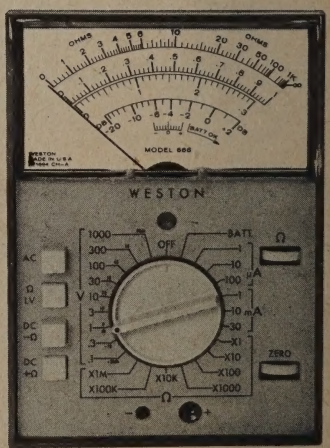


1. Completely drop-proofed; custom ruggedized self-shielded taut-band mechanism.
2. Resettable overload relay circuit—externally replaceable fuse.
3. Mirror scale for greater accuracy.
4. ½% precision resistors used in all critical circuits.
5. Diode protected meter movement—special calibrated scales for dB measurements.
6. Temperature compensated; polarity reversal switch.

RANGES

DC Millivolts: 0–250 mV.
DC Volts: 0–2.5–10–50–250–500–1000 volts.
AC Volts: 0–2.5–10–50–250–500–1000 volts.
VAC Output: 0–2.5–10–50–250 volts.
DC Microamps: 0–50 μA.
DC Milliamps: 0–1–10–100–500 mA.
DC Amps: 0–10 amps.
Ohms: RX1 (0–2K) 20 ohms center/RX10 (0–20K) 200 ohms center/RX100 (0–200K) 2000 ohms center/RX1000 (0–2 megs) 20K ohms center/RX10K (0–20 megs) 200K ohms center.
dB Scales: −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56; measured with 1 mW on 600 ohm line.
Accuracy: 1% DC; 2% AC.
Sensitivity: 20,000 ohms/VDC; 5000 ohms/VAC.
Size: 5″ w. x 2¼″ d. x 7″ h. Weight, less than 2 lbs. (batteries included).
Weston Model 663-2714040 High Accuracy Overload-Protected VOM—List **$123.00***

MODEL 666 SOLID STATE CIRCUIT TESTER VOM



1. Designed for semiconductor circuit troubleshooting.
2. Ten megohms input impedance.
3. Completely drop-proofed custom ruggedized self-shielded taut-band mechanism.
4. Differential pair FET input to high gain IC operational amplifier.
5. Input reversal switch.
6. Frequency and temperature compensated.

RANGES

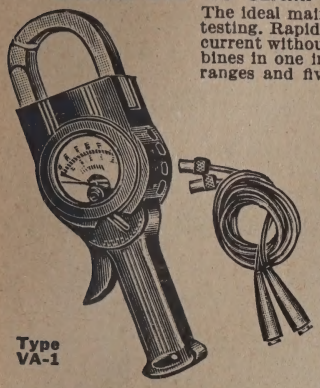
DC Millivolts: 0–100–300 mV.
DC Volts: 0–1–3–10–30–100–300–1000 volts.
AC Millivolts: 0–100–300 mV.
AC Volts: 0–1–3–10–30–100–300–1000 volts.
DC Microamps: 0–1–10–100 μA.
DC Milliamps: 0–1–10–30 mA.
AC Microamps: 0–1–10–100 μA.
AC Milliamps: 0–1–10–30 mA.
Ohms: RXL/RX10/RX100/RX1K/RX10K/RX100K/RX1 megohms; 7 normal and 7 low power ranges.
dB Scales: −40 to −18/−30 to −8/−20 to +2/−10 to +12/0 to +22/+10 to +32/+20 to +42/+30 to +52/+40 to +62.
Accuracy: 2% DC volts; 3% AC volts; 3% DC current; 4% AC current.
Sensitivity: 10 megohms DC; 10 megohms (100 pF) AC; current circuit 100 mV drop.
Size: 5″ w. x 2¼″ d. x 7″ h. Weight, less than 2 lbs. (batteries included).
Weston Model 666-2714060 Solid State Circuit Tester VOM—List Price.... **$149.00***

SERIES 660 ACCESSORIES

Weston No.	Description	List Price*
9970-0271958	Standard leather carrying case	$16.00
9970-0272160	Super leather case; velvetine lining	19.50
9970-0272028	Protective cover flap (not for 666)	4.50
9970-0271961	RF probe 0–30 V; 50 MHz	19.50
9970-0271962	High voltage probe (less resistor)	19.00
9970-0271959	900-meg resistor for probe (50 kV)	4.75
9970-0271960	495-meg resistor for probe (25 kV)	4.75
9970-0272890	990-meg resistor for 50 kV probe (for 666 only)	4.75
9970-0271961	RF probe, 10 kHz to 50 MHz (for Model 666 only)	19.50

★QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —5%; 10–24, —15%; 25 UP, —20%

MODEL 633 AC CLAMP VOLT-AMMETER



Type VA-1

The ideal maintenance tool for on-the-job testing. Rapidly measures AC voltage and current without breaking the circuit. Combines in one instrument three AC voltage ranges and five AC current ranges, completely covering voltages and current most frequently encountered. Dependable magnetic circuit; rugged Bakelite* case; non-shatterable glass; easily read double scale; pear-shaped pointer; adjustable pointer stop; six-position range and selector switch; safety-type trigger. 1000/250/100/25/10 amperes full scale; 700/350/175 volts full scale. Flexible leads supplied. Well damped movement. Complete instrument insulated for 750-volt use. For conductors up to 2" in diameter.

Weston Model 633—Type VA-1. List Price.... **$213.50***

Clamp Ammeter Type A—Similar to above except not provided with voltage features or regularly equipped with adjustable pointer stop. **$201.00***

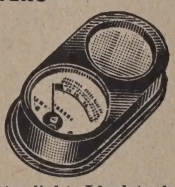
Type A-1—500/250/100/50/25/10 amps. List Price..

Type A-2—1000/500/250/100/25/10 amps. List Price **$201.00***

Type A-3—2000/1000/500/250/100/50 amps. List... **201.00***

*Registered Bakelite Corp. trademark.

MODEL 703 SIGHTMETERS



A light measuring instrument for checking lighting in offices, etc. Indicate instantly the true foot-candle rating of lighting when equipped with Viscor® color filters since they have the same color-response as the human eye. These units are pocket-size and anyone may use them. Place them on a table, desk, chair, etc., or hold them in your hand in whatever position desired. Indicates instantly whether or not the light is adequate for a particular seeing task. They are invaluable aids for the promotion of better sight through the use of better light. Ideal tools in the sale of home lighting equipment and fixtures such as lamps and reflectors. Range may be extended by a factor of 10 through the use of the special multiplier disc over the sensitive cell. Scale length, 1.43". **Size:** 4⅝" x 2⅝" x 1⅝". Weight, 10 oz.

Weston Model 703 Type 3A Sightmeter—Measures 0–75 foot-candles. Less filters. List Price..... **$90.50***

Weston Model 703 Type 7 Sightmeter—Sightmeter described, with a range of 0–100 foot-candles, including the Viscor and cosine correction filters for accurate readings. List Price.... **$120.00***

Weston Model 703 Type 8 Sightmeter—Measures 0–30 foot-candles and comes with Viscor filter. List Price..... **$116.50***

Weston Model 703 Type 51 Sightmeter—Measures 0–150 foot-candles. With ultraviolet-transparent quartz filter, black background scale with fluorescent characters and pointer. List Price..... **$166.00***

Weston Model 9924 Multiplier Disc—For use with Type 3A and Type 6A Sightmeters. Merely snaps in place and reduces light reaching cell to 1/10. List Price..... **$6.00**

Weston Model 9959 (No. 74472) Carrying Case—Carrying case of fine leather for use with above meters. List Price..... **$6.00**

MODEL 749 AC POCKET CLAMP VOLT-AMMETER

Designed particularly for the electrician, serviceman, engineer and motor repair shop. Contains six current ranges and three voltage ranges quickly readable from any angle on one, large-size scale. Supplied complete with carrying case, voltage test leads with insulated battery clips and three accessory probes. Accurate within ±3%. **Size:** 7½" x 3" x 1¼". Approx. Wt., 14 oz. Accommodates conductors up to 1" round or 1¾" x ⅜" rectangular. Large, smooth-action trigger; positive action range selector switch; shatterproof wrap-around plastic window; only one scale for all ranges; bright red pointer for easy reading (scale length, 2.36"). Uses new shock-mounted core magnet mechanism. Fully insulated for 750-volt service. Sturdy carrying case with convenient lead compartment. Precision-ground face provides positive jaw contact. Lightweight, compact, handfitting design, easily slipped into pocket. Satin-finish black Bakelite* case.

Weston Model 749—Ranges 300/150/60/30/15/6 amps AC; 600/300/150 VAC. Complete with carrying case, leads, and three accessory probes. List Price **$68.00***

Weston Model 9886 Plug-In Adapter—Provides a single or 10-loop conductor for current measurements. Rated 250 volts AC, measures current to 25 amperes on "Direct Reading"; up to 10 amperes for "Amperes Divided by 10" connection. List.. **$8.00***

MODELS 901 AND 904 INSTRUMENTS

Scale, 5½". Size, 7½" x 7¼" x 3⅝".

Model 901 DC Instruments: Self-shielded, permanent magnet, moving coil operation. Rated accuracy, 0.25% F.S. Weight, 3¾ lbs. approx.

Model 904 AC Instruments: Movable iron type. Accuracy, 0.5% F.S. Weight, 4¾ lbs. approx.

MODEL 901 DC INSTRUMENTS

Weston No. 901-	Meter	Range	*	List Price*
2904001	DC Amps	50 mV/20/5/2 amps	100	$309.00
1905001	DC Volts†	750/300/150/75/30/15/3	150	341.00
4905001	DC Milliam.	1K/500/200/100/50/20/10	100	321.00
4905002	DC Milliam.	100/50/20/10/5/2/1	100	321.00

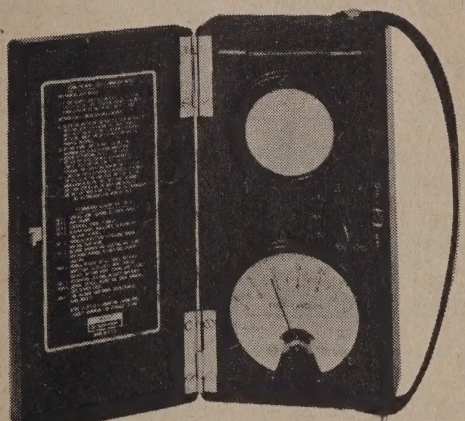
*Scale division. †5000 ohms/volt.

MODEL 904 AC INSTRUMENTS

Weston No. 904-	Meter	Range	‡	List Price*
2905001	AC Amps	200/100/50/20/10/5/2	100	$414.50
2905002	AC Amps	50/20/10/5/2/1	100	403.00
2901001	AC Amps	5 amps	100	292.00
1904005	AC Volts	750/300/150*	150	300.50
1906001	AC Volts	750/300/150/75/30/15/7.5/3	150	462.00
1903001	AC Volts	300/150	150	279.50
1904003	AC Volts	600/300/150*	150	300.50
1904005	AC Volts	750/300/150*	150	300.50
4902001	AC Milliam.	150/75	150	331.00
4902003	AC Milliam.	300/150	150	331.00

*Non-locking key on high range, which is for intermittent duty only. ‡Scale division.

MODEL 615 BROAD RANGE LIGHT METER



General purpose standard for business, industry and government agencies where monitoring over wide ranges of illumination is necessary. The Photronic cell is corrected by visual and cosine filters, and the built-in battery-operated amplifier allows seven ranges of light measurement. The Photronic cell is hermetically sealed for long life and is hinged for convenience in making directional measurements. The selector switch has a provision for battery test and an interlock to insure the switch is off when the case is closed. Ranges: 0–1.2, 3, 12, 30, 120, 300, 120 Foot Candles. Viscor and Cosine correction supplied. More than one year of operation from one 9 volt battery. Size: 7" x 3½" x 2½". Weight: 2 lbs. List Price..... **$345.00**

MODEL 614 FOOT-CANDLE METERS

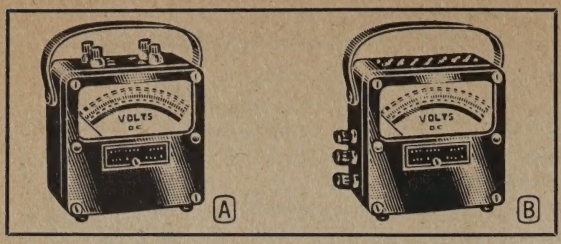
Ideal for general commercial lighting surveys where wide ranges of light values exist. Fully self-contained, no outside power or batteries required. **Scale Length:** 2.37". **Size:** 7⅝" x 3⅜" x 2¼". Weight, 1 lb., 13 oz.

Weston No. 614-9960001—Viscor filtered 0–60/120/600 foot-candles; for visual correction for color. List Price.... **$291.50***

Weston No. 614-9960002—Viscor and cosine correction filtered 0–100/250/500 foot-candles; for visual correction for color and direction. List Price..... **$299.50***

★**QUANTITY DISCOUNTS: LOTS OF 1-5, LIST; 6-14, —5%; 15-24, —10%; 25 UP, —15%**

22X-75A



MODEL 931 DC INSTRUMENTS (FIG. A)

Compact, light weight and accurate within ½ of 1%. Hand calibrated mirror scales and knife-edge pointers eliminate parallax errors. Scale length 4.04". Self-shielded permanent magnet moving coil. Size, 5¼" x 5" x 3¼". Approx. Weight, 2 lbs.

DC VOLTMETERS
1000 OHMS/VOLT

Weston No. 931-	Range	Scale Division	List Price*
1901003	50	100	$158.00
1901002	150	150	158.00
1905003	30/7.5/3	150	184.00
1905002	75/30/7.5	150	184.00
1905001	150/15/3	150	184.00
1905005	300/150/3	150	184.00
1905006	750/300/150	150	184.00
	5000 OHMS/VOLT		
1906002	75/30/7.5	150	$205.00
1906004	150/15/3	150	205.00
1906006	300/150/3	150	205.00
1906005	500/100/10	100	205.00
1906001	750/300/150	150	205.00
	DC MILLIAMMETERS		
4904005	3/0.3/0.03	150	$201.50
4904004	15/1.5/0.15	150	201.50
4904003	150/15/1.5	150	180.50
4904002	1500/150/15	150	180.50
4904001	3000/300/30	150	180.50
	DC MICROAMMETERS		
5901003	100	100	$180.50
5902002	30	150	205.00
5902003	100	100	205.00
5902001	200	100	180.50

DC AMMETERS (SELF-CONTAINED TO 50 AMPS)

Scale Division: 100 (150 for ranges of 1.5, 3 A and their multiples).

Weston No. 931-	Range, Amps	List Price*	Weston No. 931-	Range, Amps	List Price*
2902007	5/0.5/0.05	$191.50	2902013	50/5/0.5	$191.50
2902008	5/2.5/0.5	191.50	2902002	50/10/2	191.50
2902006	10/1/0.1	191.50	2902001	50/20/5	191.50
2902009	10/5/1	191.50	2902004	50/25/10	191.50
2902003	15/3/1.5	191.50			

MODEL 432 DC AND SINGLE-PHASE AC WATTMETERS (FIG. A)

Electrodynamometer accurate within ½ of 1%. Power consumption: Potential circuit at 115 volts, 60 Hz, 1.2 watts, 1.2 volt-amperes; current circuit at 5 amperes, 60 Hz, 0.65 watt, 0.68 volt-ampere. Scale 4.04" l. Scale Division: 75, unless otherwise noted. Size, 5¼" x 5" x 3¼". Weight, 3¼ lbs., approx.

DC AND SINGLE PHASE 25-125 Hz

Weston No. 432-	Volts		Amps		Watts		List Price*
	Nor.	Max.	Nor.	Max.	High	Low	
9901001	150/75	200/100	1	1.5	150	75	$359.00
9901005	150/75	200/100	5	7.5	750	375	359.00
9901002	300/150	400/200	1	1.5	300	150	359.00
9901006	300/150	400/200	5	7.5	1.5 kw	.75 kw	359.00
9901008	300/150	400/200	10	15	3 kw	1.5 kw	359.00
9901010†	300/150	400/200	20	30	6 kw	3 kw	359.00
9901011	300/150	400/200	50	75	15 kw	7.5 kw	359.00
9902005	150/75	200/100	10/5	15/7.5	1500/750	750/375	359.00
9902003*	200/100	260/130	5/2.5	7.5/3.75	1000/500	500/250	359.00
9902004	300/150	400/200	5/2.5	7.5/3.75	1500/750	750/375	359.00
9902007	300/150	400/200	10/5	15/7.5	3/1.5 kw	1.5/.75 kw	359.00
	DC AND SINGLE PHASE 25-1000 Hz						
9902013	300/150	400/200	5/2.5	7.5/3.75	1500/750	750/375	$389.50
9901015	300/150	400/200	5	7.5	1.5 kw	.75 kw	389.50

Scale Div.: *100; †60.

MODEL 433 AC INSTRUMENTS (FIG. B)

Movable iron type, horizontal operation, shielded from external magnetic fields. Well compensated for temperature changes. **Power Consumption:** 150 V range at 115 volts, 60 Hz, 2.5 watts, 2.5 VA. **Rated Accuracy:** .75%. **Frequency Coverage:** Alternating current at frequencies from 25 to 1000 Hz available. **Self-Contained Ranges:** Single, double and triple up to 750 volts. **Range Extension:** Higher ranges obtained with multipliers or by using Model 311 Potential Transformer in connection with a 150 volt range. **Size:** 3¼" x 5" x 5¼". Weight, 2½ lbs., approx.

AC VOLTMETERS
25-125 Hz

Weston No. 433-	Range	Approximate Resistance, Ohms	Scale Div.	List Price*
1901005	150	5300	150	$175.50
1901008	250	18,200	125	175.50
1902011	10/5	24/12	100	178.50
1903001	20/10	116/58	100	178.50
1903002	30/15	336/168	150	178.50
1903004	60/30	850/425	150	178.50
1903007	150/75	5300/2680	150	178.50
1903009	300/150	22,000/11,000	150	178.50
1905001	450/300/150	33,000/22,000/11,000	150	210.50
1906002†	600/300/150	44,000/22,000/11,000	150	210.50
1906003†	750/300/150	55,000/22,000/11,000	150	210.50

†Has extension on case for additional resistance.

25-1000 Hz

1901007	150	.....	150	$200.00
1903008	150/75	.....	150	204.00
1903010	300/150	.....	150	204.00
1906001	600/300/150	.....	150	234.00
1907001‡	750/300/150	.....	150	288.00

‡Includes necessary external Model 9990, Type 52 resistance box.

AC AMMETERS

Similar to Fig. A in appearance. **Power Consumption:** 5 amps range at 5 amps, 60 Hz, 0.50 watt 0.52 VA. Single, double and triple ranges cover frequencies 25–500 Hz. Higher frequency coverage available. Triple range instruments have internal current transformer. All have two binding posts, double and triple range instruments have range selector switch. For ranges above 50 amps, Model 461 Current Transformer, Type 1 with 5 amps instrument is recommended.

25-500 Hz

Weston No. 433-	Range	Approximate Resistance, Ohms	Scale Div.	List Price*
2901001	1	0.48	100	$165.00
2901002	5	0.020	100	165.00
2901005	15	0.0038	150	165.00
2903004	2/1	0.12/0.48	100	190.50
2903001	5/2.5	0.02/0.08	100	190.50
2903005	10/5	0.0083/0.028	100	190.50
2930006	20/10	0.004/0.0108	100	190.50
2906002	3/1.5/0.75	0.18/0.43/0.59	150	262.00
2906001	5/2.5/1	0.13/0.26/0.37	100	262.00
2906005	10/5/1	0.030/0.070/0.37	100	262.00
2906006	10/5/2.5	0.030/0.060/0.075	100	262.00
2906007	15/7.5/1.5	0.023/0.044/0.19	150	262.00
2907001	20/5/2	0.040/0.19/0.30	100	262.00
2908001	30/7.5/3	0.0090/0.036/0.040	150	262.00
2909001	50/20/5	0.0084/0.0011/0.020	100	262.00
2909002	50/20/10	0.0073/0.0080/0.010	100	262.00

AC MILLIAMMETERS

Double ranges cover 25–1000 Hz. Double range instruments have range selector switch. Frequency span to 2500 Hz within ¾% accuracy possible.

25-500 Hz

Weston No. 433-	Range	Approximate Resistance, Ohms	Scale Div.	List Price*
4903005	150/75	30/120	150	$188.50
4903002	300/150	6.4/26	150	188.50
4903006	500/250	1.6/6.6	100	188.50

25-1000 Hz

4903001	100/50	.....	100	$198.00
4903003	500/250	.....	100	198.00

★QUANTITY DISCOUNTS

1-5	6-14	15-24	25 Up
List	List −5%	List −10%	List −15%

NOTE: ONLY THE MOST COMMON RANGES ARE LISTED. OTHER RANGES AND MODELS ON REQUEST.

Electro-Voice® PROFESSIONAL, GENERAL PURPOSE MICROPHONES

PROFESSIONAL OMNIDIRECTIONAL MICROPHONE

Model RE50 Noiseless Hand and Stand Dynamic—Same ruggedness and electrical characteristics of 635A. Widely used for instrumental broadcast and recording. Extremely low susceptibility to mechanical shock, handling and cord noise, or breath pops due to unique double case design separated by rubber isolating mounting. With 15-ft. cable, Switchcraft A3M connector and 300 clamp. Size: 7¾" lg. x 1⁵⁄₁₆" max. dia.; shank 1" dia. Net Weight, 9½ oz. Net Each..... **$88.20**

PROFESSIONAL LAVALIER AND BOOM TYPE MICROPHONES

Model 649B Miniature Lavalier—Smallest dynamic lavalier—weighs only 31 grams without cable; length, 2¼"; diameter, ¾". Ideal for programming where unobtrusive or concealed microphone placement is desirable. Frequency response: 70 to 10,000 Hz (rising). Output level: −61 dB. Acoustalloy® diaphragm. Omnidirectional. Matches all low impedance inputs. With 30-ft. shielded cable. Aluminum case has non-reflecting gray finish. Complete with neck cord, belt clip, Model 310A stand clamp and suede pouch. Net Each..... **$88.50**

Model RE85 Lavalier—New double case design with internal element suspended in compliant rubber sharply reduces friction and shock noise; hard, smooth case finish avoids friction noise; smooth cable, isolated from inner capsule, prevents cable noise pick-up. Acoustalloy diaphragm. Lo-Z. Integral 30' two-conductor shielded cable; non-reflecting champagne finish. Response: 90–10,000 Hz in chest-lavalier position. Output: −61 dB. Size: 2⅝" l. x 1⁵⁄₁₆" dia. With neck cord and tie clasp assemblies, belt clip and zipper pouch. Net Each..... **$93.00**

Model RE51—Lightweight (under ½ oz.) dynamic microphone clips onto eyeglass frame or special headband (furnished) for hands-free use without lavalier noise. Constant distance from mouth assures unchanging voice pickup; noise reduction is comparable to noise-cancelling mikes. Comes with 3½" l. and 4½" l. mike tubes; transducer is ½" dia. x 1" l. Nonreflecting black finish. Small low-drain, battery-powered transistorized amplifier clips to belt, has on/off switch, cough button, battery test lamp, cable connector. Screwdriver slot level adjustment. Lo-Z. Response: 80–10,000 Hz. Output level: −56 dB max. Net Each..... **$99.60**

GENERAL PURPOSE CARDIOID MICROPHONES

VARIABLE-D® TYPES

Model 660—Rugged, super-cardioid, dynamic mike provides reliable service in every situation requiring a directional microphone. Exclusive Variable-D principle permits "close miking" without proximity effect or boost in low frequency response. Lightweight, rugged case is pressure cast zinc with satin chrome finish. Non-metallic Acoustalloy® diaphragm is unaffected by extremes of atmospheric conditions. Polar pattern is super cardioid. Response: 90–13,000 Hz. Output Level: −55.5 dB. EIA Sensitivity Rating: −150.5 dB. Supplied with 15-foot cable, Model 358 stand adapter. Size: 1½" dia. max. x 6½" long. Weight, 10½ oz. Net Each..... **$69.80**

Model 661—Same as Model 660, but stud-mounted and features a new impedance selector combined with the on-off switch. Either balanced 150 ohm or unbalanced Hi-Z output may be selected and locked with the flip of a switch and the turn of a screw. Nothing to take apart, no wires to change, and the selected impedance is plainly indicated. Response: 90–13,000 Hz. Output level: −56 dB. Weight, 18½ oz. Net Each..... **$71.30**

Model 664—For quality tape recording, communications and PA uses. Allows close talking without booming or bass attenuation; discriminates against unwanted sound. Blast filter minimizes wind effect; Acoustalloy diaphragm is shielded from dust and magnetic particles. Response: 60–15,000 Hz. Output: −58 dB. Pressure-cast case with chrome finish. Dual Hi- and Lo-Z; new E-V QCTM-4M cable connector allows easy change of impedance without tools by moving a single pin. On-off switch; 15' cable. Size: 7¼" lg. x 1⅞" dia. Net Ea..... **$63.35**

SINGLE-D TYPES

Model 671—Single-D mike emphasizes low frequencies when used close up. Ideal for the exacting needs of high quality sound reinforcement, public address, and other applications. Exclusive Volumetric-hologram designed diaphragm provides exceptionally wide, linear response at all angles. Effective shock absorber isolates transducer assembly from mechanical noises. Internal Acoustifoam® filter allows close talking without excessive "P-popping". Equipped with lock to keep switch in "on" position if desired. Lightweight case is zinc diecast in satin chrome finish. Switchcraft A3F connector. Supplied with 15-foot cable; Model 358 stand adapter. Response: 60–14,000 Hz. Output Level: −60 dB. Impedance: 150 ohms. EIA Sensitivity Rating: −156 dB. Size: 1.97" dia. x 6.19" long. Weight, 8 oz. Net Each..... **$60.00**

Model 670—Single-D mike permits bass boost with close-up use; for stand or hand-held operation. Lightweight, rugged machined aluminum case with anodized brass finish. Internal air-damped shock mount isolates head completely from case to prevent shock noise pickup, protects against damage. Built-in superior pop filter. Very high side and rear sound rejection plus smooth, flat response reduce possibility of feedback even with high gain. Built-in Switchcraft A3M connector; on/off switch; user-replaceable head. Response: 60–14,000 Hz. Output: −58 dB. Impedance: High or low, selectable. With cable and Model 300 stand clamp. Size: 7½" lg. x 1⅜" max. dia., 1" shank dia. Net Each..... **$55.50**

Model 670V—Same as Model 670, but with thumb-operated volume control knob instead of on/off switch; control turns off mike in lowest position. Net Ea..... **$59.40**

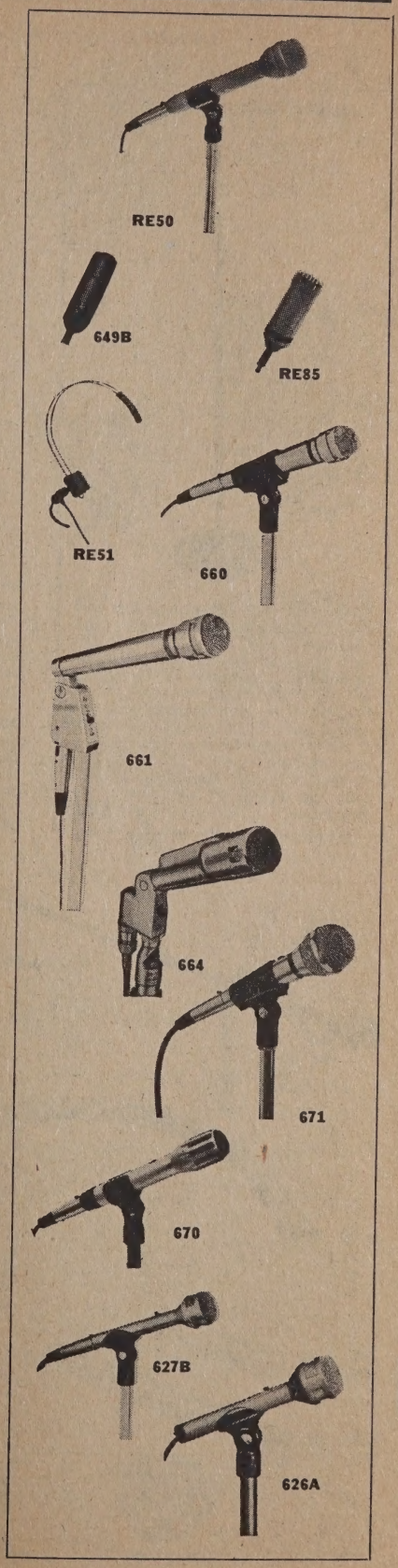
Model 627B "Hand-And-Stand"—Single D entertainer's mike emphasizes bass when used close up. Lightweight, rugged, with built-in pop and dust filter. Smooth response shaped for presence. Professional style, broadcast type, shielded cable. Switchcraft A3F connector. On-off switch. Case, satin chrome finish. Response: 60–13,000 Hz. Output: −58 dB. Specify Hi-Z or Lo-Z. With Model 312 stand adapter. Size: 6¹³⁄₆₄" long x 1¹⁹⁄₃₂" dia.; shank, ¾" dia. Net Each..... **$45.55**

Model 626A "Hand-And-Stand"—Modestly priced Single-D similar to 627B but for less exacting uses. Superflex cable uses phosphor bronze conductors, has lower capacitance to minimize high frequency loss in Hi-Z operation. Dual Hi-Z and Lo-Z, unbalanced to ground, selectable at cable end. Response: 70–12,000 Hz. Output: −58 dB. Fawn beige, Micomatte finish. Model 312 stand adapter supplied. Size: 6¹³⁄₃₂" long x 1¹⁹⁄₃₂" dia.; shank, ¾" dia. Weight, 8.5 oz. Net Each..... **$33.75**

SUFFIXES AND PRICES FOR MICROPHONES WITH OPTIONAL PHONE PLUG AND CARRYING CASE

Suffix **P**—Microphone with phone plug, cable amp end. Hi-Z only.
Suffix **PC**—Microphone with phone plug, cable amp end, and carrying case. Hi-Z only. To order microphone with optional phone plug, add suffix **P** to model number; e.g., 626A**P**. For microphone with optional phone plug and carrying case, add suffix **PC** to model number; e.g., 626A**PC**.

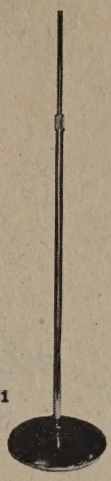
Basic Model No.	Suffix P	Suffix PC	Basic Model No.	Suffix P	Suffix PC
626A	$36.35	$39.15	664	$65.95	$68.75
627B	48.15	50.95	670	58.10	60.90
631A	48.15	50.95	670V	62.00	64.80
660	72.40	75.20	671	62.75	66.00



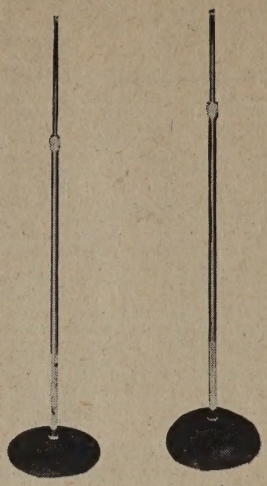
MICROPHONE STANDS, ACCESSORIES

LATEST-DESIGN FLOOR STANDS

DELUXE ALL-CHROME MODEL



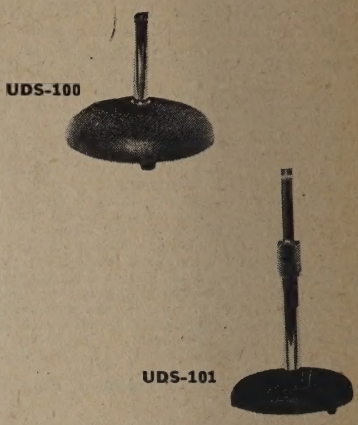
Model UMS-101—Deluxe professional floor stand has all chrome-plated stem assembly and handsome, bright chrome-plated base. Stem assembly terminates in standard ⅝″-27 threads for microphone attachment. Low silhouette base concentrates mass of weight toward outer edge for optimum stability. Ideal for use with heavier microphones and UBB-1 boom. Height, 34″ to 62″. Base diameter, 10″. Shipping Weight, 13 lbs. Net Each..... **$15.02**



Model UMS-102—Professional and general purpose floor stand has new-design low silhouette base, bright chrome-plated stem assembly. Same as deluxe Model UMS-11C except with black wrinkle base. Height, 34″ to 62″. Base diameter, 10″. Shipping Weight, 12 lbs. Net Each..... **$12.50**

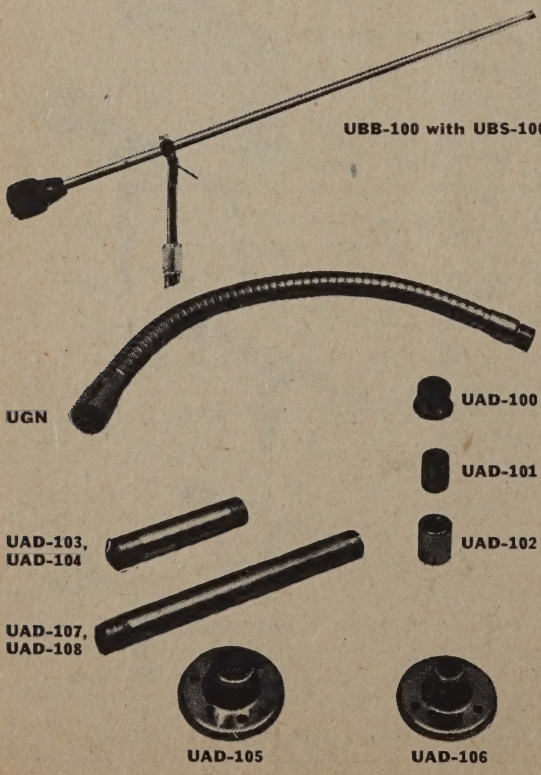
Model UMS-100—Popular economy model has bright chrome-plated stem assembly, black wrinkle base. Extremely stable when used with average weight microphones. Standard ⅝″-27 thread. Height, 35″ to 63″. Base diameter, 10″. Shpg. Wt., 10 lbs. Net Each..... **$11.87**

BASE DESIGN DESK STANDS



Model UDS-100—Non-adjustable desk stand, ideal choice for microphones used in a fixed location. Bright chrome-plated stem terminates in standard ⅝″-27 thread for microphone attachment. Perfect-stability cast iron base has attractive black wrinkle finish. Base diameter, 6″. Chrome stem height, 4″. Shipping Weight, 2 lbs. Net Each..... **$4.31**

Model UDS-101—Adjustable desk stand with bright chrome-plated stem assembly. Adjusts from 8 to 13 inches. Has standard ⅝″-27 thread. Stable cast iron base has carefree black wrinkle finish. Base diameter, 6″. Shpg. Wt., 3 lbs. Net Ea... **$6.83**



ACCESSORIES

Model UBB-100—Baby boom arm attachment connects to any microphone floor stand for converting to boom type stand. Locks securely in any position. Bright, chrome-plated boom is 31″ long. Has standard ⅝″-27 thread for microphone attachment. With counter weight. Shipping Weight, 3½ lbs. Net Each..... **$9.35**

Model UBS-100—Boom swivel mount as used on Model UBB-100. Available as a replacement, or can be used with various adapters to fabricate special needs. Provides for cables to run thru threaded end. Net Each..... **$6.51**

Model UGN flexible "goose-necks" may be used with any microphone stand or accessory fixture. Eliminates time consuming adjustment. Helps put microphone where you want it. Connecting ends have ⅝″-27 male and female threads. Finished in bright chrome.

Model UGN-106—Flexible 6″ long goose-neck. Net Each.. **$2.52**
Model UGN-113—Flexible 13″ long goose-neck. Net Each. **3.26**
Model UGN-119—Flexible 19″ long goose-neck. Net Each. **4.62**

MIKE STAND ADAPTERS

Versatile adapters and stem extensions essential for most desk and floor-type microphone stands. Heavy-duty and chrome-plated.

Model UAD-100—For adapting RCA microphones, ⅝″-27 female to ½″ male pipe thread. Net Each..... **$1.26**

Model UAD-101—Running pipe thread, male; ¾″ long, ⅝″-27 thread. Net Each..... **$0.84**

Model UAD-102—Chrome-plated coupling; ⅝″-27 thread female to ⅝″-27 thread female. Net Each..... **$1.05**

Model UAD-103—Chrome-plated, 3″ long stem extension; ⅝″-27 thread, male each end. Net Each..... **$1.26**

Model UAD-104—Chrome-plated, 6″ long stem extension; ⅝″-27 thread, male each end. Net Each..... **$1.26**

Model UAD-107—Chrome-plated, 12″ long stem extension; ⅝″-27 thread, male each end. Net Each..... **$2.52**

Model UAD-108—Chrome-plated, 24″ long stem extension; ⅝″-27 thread, male each end. Net Each..... **$4.10**

Model UAD-105—Microphone base flange, female. ⅝″-27 thread. Chrome-plated. Base diameter, 2″. Net Each..... **$1.26**

Model UAD-106—Microphone base flange, male. ⅝″-27 thread. Chrome-plated. Base diameter, 2″. Net Each..... **$1.37**

Electro-Voice® PAGING SPEAKERS AND ACCESSORIES

PAGING SPEAKERS

Model PA30AT-7—Thirty-watt reentrant projector with 70.7-volt line transformer. Line power taps at 30, 15, 8, 4, 2 and 1 watts. Smooth response for voice and music. Frequency response, 250–14,000 Hz; power handling capacity, 30 watts; dispersion, 90° x 120°. EIA sensitivity rating, 60 dB; sound pressure level, 127 dB. Rugged, high-impact Implex* horn; conservatively rated driver. Universal swivel bracket. Size, 6½" w. x 9¾" d. x 11½" h. Shpg. Wt., 8¾ lbs. Net Each.....**$38.85**

Model PA30AT-2—Same as PA30AT-7, but integral transformer, 25 V. Net **38.85**

Model PA30A—Same as PA30AT without line transformer. Uses either TR30 transformer. Impedance, 8 ohms. Size, 6½" w. x 8½" d. x 11" h. Shpg. Wt., 7½ lbs. Net Each.....**$30.00**

Model PA30A-45—Same as PA30A but with 45-ohm voice coil. Net Each... **31.65**

Model PA30RT-7—Thirty-watt reentrant paging projector. Similar to PA30AT except with round spun-aluminum bell for use where codes require metal construction. Resistant to chemical atmospheres and weather extremes. High efficiency. Response: 250–14,000 Hz. Capacity: 30 watts. Impedance: 8 ohms. Dispersion: 105°. Sensitivity: 60 dB, EIA. Sound pressure level: 127 dB. Size, 10" horn dia. x 10¼" deep x 12⅛" h. Shpg. Wt., 8 lbs. Net Each.....**$38.85**

Model PA30RT-2—Same, but transformer is 25 V. Net Each..... **38.85**

Model PA30R—Same as PA30RT, less transformer. Accepts either TR30. Imped., 8 ohms nom. Size: 10" dia. x 9¾" deep. Shpg. Wt., 6¾ lbs. Net Each.....**$30.00**

Model PA30R-45—Same as PA30R, but with 45-ohm voice coil. Net Ea... **31.65**

Model 844A—For medium-angle sound distribution. Features smoothest response in its class with better lows to provide natural paging without feedback. Handles 30 watts. Diecast horn. Field-replaceable coil. Response, 250–13,000 Hz; handles 30 watts; imp., 8 ohms nom.; dispersion, 90°; EIA sensitivity, 54 dB; sound pressure level, 123 dB. Size, 9⅞" dia. x 7⅞" deep. Shpg. Wt., 13 lbs. Net Ea.....**$35.70**

Model 847A—Utilizing the famous CDP® principle—this wide-angle speaker provides higher articulation without annoying "peaked" response over a uniform 120° x 90° area. Two low distortion diffraction horns. Handles 25 watts. Fiberglass horn has mesa tan color molded in. Response, 250–10,000 Hz; capacity, 25 watts; sound pressure level, 114 dB; dispersion, 90° x 120°; impedance, 8 ohms. Size, 7¾" w. x 10¼" d. x 11¾" h. Net Wt., 8 lbs.; Shipping Wt., 10 lbs. Net Each.....**$45.15**

Model PA15A—Rectangular, wide angle, reentrant paging projector delivers outstanding speech intelligibility, good reproduction of music. Installation cost kept low by (1) easily removable omni mounting base, (2) integral pigtail for connection to system wiring without using tools, (3) on constant voltage models, a rear-mounted transformer with out-in-the-open, screwdriver-adjustable power taps. Greater efficiency for reduced amplifier power requirements results from entirely new diaphragm and voice coil assembly combined with Alnico-V magnet structure. Virtually immune to weather extremes. High impact, glass-filled polypropylene molded horn parts; diecast mounting base and rear housing; chemical resistant universal swivel bracket. Response: 275–14,000 Hz. Capacity: 15 watts program. Dispersion: 80° ± 10° (600–9,600 Hz). Sound pressure level: 117 dB. Impedance: 8 ohms. Size: 6⅞" h. x 10¹⁵⁄₁₆" w. x 10⅛" d. Weight, 2 lbs., 14 oz. Net Each.....**$23.10**

Model PA15A-45—Same as PA15A, except with 45-ohm voice coil. Net Ea. **24.30**

Model PA15AT—Same as PA15A, with line transformer included. Weight, 3 lbs., 6 oz. Net Each.....**$32.70**

Model PA15R—Similar to PA15A except with round projector. Nominal dispersion angle is a wide 120 degrees in the octave band where speech energy is greatest (600–1,200 Hz). Sound pressure level: 120 dB. Other specifications same as Model PA15A. Size: 8¾" dia. x 9¹⁵⁄₁₆" d. x 8¾" h. Weight, 2 lbs., 14 oz. Net Each.....**$23.10**

Model PA15R-45—Same as PA15R, except with 45-ohm voice coil. Net Ea. **24.30**

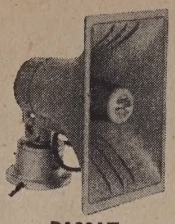
Model PA15RT—Same as PA15R, but with line transformer included. Weight, 3 lbs., 6 oz. Net Each.....**$32.70**

Model PA12—Highly efficient reentrant projector has fully moisture and fungus proofed Implex horn, Kapton voice coil and phenolic diaphragm. Molded-in tan finish cannot rust, chip, fade or peel. Single wing nut adjustment base is removable for installation. Handles 12 watts rms program material over 325–14,000 Hz range. Dispersion, 130°. Sound pressure level, 119 dB at 4' with full 30 watts input. EIA sensitivity, 60.5 dB. Impedance, 8 ohms. Size, 7½" dia. x 7⅛" d. Net Weight, 2 lbs.; Shipping Weight, 3½ lbs. Net Each.....**$17.40**

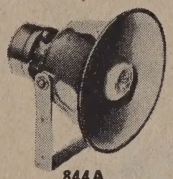
Model PA12-45—Same, but 45-ohm voice coil. Net Each..... **18.15**

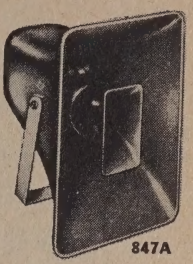
Model PA12F—Rugged cast aluminum front or rear flush-mounting reentrant speaker fits between ceiling joists or wall studs for built-in installation. Specifications are same as for PA12 except low frequency cutoff is 500 Hz and dispersion is 120°. Flange size, 6" dia. x ⅛" th. Horn size, 4¾" dia. x 3⁷⁄₁₆" d. to back of flange. Net Weight, 1½ lbs. Net Each.....**$22.35**

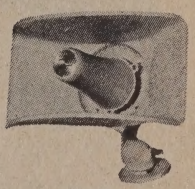
*Registered Rohm and Haas trademark.

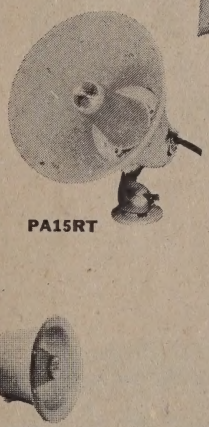

PA30AT

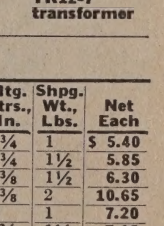
PA30RT

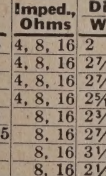

844A


847A


PA15A


PA15RT


PA12 with TR12-7 transformer


PA12F

TRANSFORMERS AND ACCESSORIES

Line Transformers—Series TM and TR accessory line transformers for use in constant voltage PA systems. Accept solderless terminals in TH housings (below).

Model	Line Oper. Voltage, V	Cap. Watts	Taps Available, Watts	Sec. Imped., Ohms	Dimension, In. W.	D.	H.	Mtg. Ctrs., In.	Shpg. Wt., Lbs.	Net Each
TR5	70.7	5	5, 2.5, 1.25, .625	4, 8, 16	2	1⅜	1¹¹⁄₁₆	1¼	1	$ 5.40
TR15	70.7	15	15, 10, 5, 2.5	4, 8, 16	2⅞	2⅝	1¾	1¼	1½	5.85
TR30	70.7	30	30, 20, 10, 5	4, 8, 16	2⅞	2⅝	1¾	2⅜	1½	6.30
TR50	70.7	50	50, 40, 25, 15	4, 8, 16	2⅝	2¼	2¼	2⅜	2	10.65
TM5	25 or 70.7	5	5, 2.5, 1.25, .625	8, 16	2⅜	1⅝	1¹⁵⁄₁₆	2	1	7.20
TM15	25 or 70.7	15	15, 7.5, 3.75, 1.875	8, 16	2⅞	1⅞	2⅜	2⅜	1½	7.65
TM30	25 or 70.7	30	30, 15, 7.5, 3.75	8, 16	3⅛	2	2¾	2¹³⁄₁₆	2	11.70
TM60	25 or 70.7	60	60, 30, 15, 7.5	8, 16	2½	3⅜	3¹⁄₁₆	3⅛	2½	13.80

Model TR12-2—Weather and fungus proofed 25 volt transformer for use with Model PA12; mounts on rear bracket. Snap-on acetate cover; solderless push-clips select 12, 6, 3, 1.5 or 0.75 watt taps. Response, 90–15,000 Hz. Insertion loss, less than 1 dB. Secondary imped., 8 ohms. Shpg. Wt., 1½ lbs. Net Each....**$7.50**

Model TR12-7—Same, but for 70.7 V line use. Net Each...**$7.50**

Model TR30-2—Same as TR30-7 above, except designed for 25-volt applications. Net Each.....**$14.40**

Model TR30-7—Transformer for PA30 rated 30 watts, 70.7-volt line. Easily installs under base. Line power taps at 30, 15, 8, 4 and 2 watts. Sec. imped. 8 ohms. Shpg. Wt., 2 lbs. Net.....**$14.40**

TH

Model TH Transformer Housing—Neat weather-proof mounting, vertical or horizontal, on any flat surface or on horn bracket. Exclusive wattage indicator tells power setting at a glance. No soldering required with E-V transformers. Size, 4" h. x 5" w. x 3½" d. Shipping Weight, 2½ lbs. Net Each.....**$6.75**

All E-V public address speakers are eligible for FCDA purchases.

DIAPHRAGM REPLACEMENT KITS

For easy field maintenance or conversion of E-V PA drivers.

Model No.	Use for Speaker No.	Net Each	Model No.	Use for Speaker No.	Net Each
84431	1829	$13.70	87897	1823	$14.70
84432	1829T	13.70	86000	847A	34.20
84433	1828T	13.70	83487	PA30A or -R	10.80
84434	1828C, 1828R	13.70	83623	PA30A-45 or R-45	10.80

TGA-90

TONE GENERATOR AMPLIFIERS

These amplifiers are designed to produce high power audio siren or chime tones. Tones are actuated by any external closed contacts, such as a pushbutton switch, relay or clock. Units can be supplied to switch "on" when an "open" circuit is present, such as a break in a security loop. Designed for 24-hour duty and available in 19 inch rack mount. 120 VAC or 24 VDC. Siren tones available are continuous tone, yelp and wail.

Bell Model TGA-20—20 watts, **Size:** 6¼" h. x 16¼" w. x 8½" d. Weight, 16 lbs. Net Each.....**$147.00**

Bell Model TGA-45—45 watts, **Size:** 6¼" h. x 16¼" w. x 8½" d. Weight, 17 lbs. Net Each.....**$188.10**

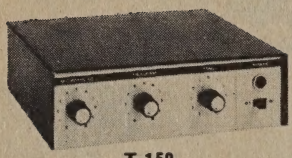
Bell Model TGA-90—90 watts, **Size:** 7¾" h. x 16¼" w. x 10¼" d. Weight, 22 lbs. Net Each.....**$246.90**

Bell Model TGA-200—200 watts, **Size:** 7¾" h. x 16¼" w. x 10¼" d. Weight, 29 lbs. Net Each.....**$345.00**

ACCESSORIES

Bell Model BEPT—Phono Turntable, record speeds 15, 33⅓, 45 and 78 rpm. **Size:** 4½" h. x 15" w. x 10" d. Net Each.....**$37.50**

Bell Model BECC-12—Portable PA Speaker Carrying Case. Accommodates most package amplifiers. Contains two 12", 25 W, 8 ohm speakers, two 25' cables with plugs. **Size:** 22" h. x 17¾" w. x 15¼" d. Net Each.....**$82.50**



T-150

SOLID STATE AMPLIFIERS

All silicon solid state amplifier provides class B operation for general use, paging, or background music. Available with high or low impedance microphones. Includes one 4-ohms program input, and 25 and 70-volt line output. **Power Output:** 15 watts. **Size:** 9¼" w. x 8⅞" d. x 2⅞" h. Weight, 6 lbs.

Bell Model T150 Solid State Amplifier—15 watts, 1 mic. and 1 aux. input. Net Each.....**$78.00**

Bell Model T-300 Solid State Amplifier—30 watts, 4 mics. and 1 aux. input. **Size:** 5¼" h. x 16" w. x 12" d. Weight, 18 lbs. Net Each.....**$150.00**

Bell Model T-600 Solid State Amplifier—60 watts, 4 mics. and 1 aux. input. **Size:** 5½" h. x 16" w. x 12" d. Weight, 24 lbs. Net Each.....**$195.00**

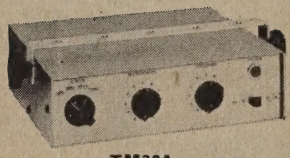
Bell Model T-1400 Solid State Amplifier—140 watts, 4 mics. and 1 aux. input. **Size:** 5½" h. x 16" w. x 12" d. Weight, 34 lbs. Net Each.....**$300.00**

MOBILE AMPLIFIERS

Compact, solid state mobile amplifier comes with universal mounting bracket. **Power Output:** 30 W (50 W with 3-mode). **Frequency Response:** 100 Hz to 10 kHz. **Sensitivity:** Mike, 1 mV; phono, .2 V; auxiliary, .1 V. **Output:** 4, 8, or 16 ohms. **Power Required:** 12 VDC, 200 mA. **Size:** 8½" w. x 5" d. x 5⅞" h. Weight, 6 lbs. Includes one mike, phono, and auxiliary input.

Bell Model TM30A Mobile Amplifier—Net Each.....**$102.00**

Bell Model TM30S Mobile Amplifier—With electronic siren. Net Each.....**135.00**



TM30A

SOLID STATE AM/FM TUNER

Adds to any existing PA system. FM: **Sensitivity:** 3 μV for 30 dB quieting; 200 kHz bandwidth. **Image Rejection:** 40 dB. **Signal-to-Noise Ratio:** 50 dB. **Antenna:** 300 ohms balanced; 75 ohms unbalanced. Wideband ratio detector and 3 IF stages full limiting at 15 μV. AM: **Sensitivity:** 10 μV at 8 kHz bandwidth at 6 dB. **Audio Output:** 0.5 V rms min. **Size:** 13¾" w. x 8¾" d. x 4" h. Shipping Weight, 12 lbs.

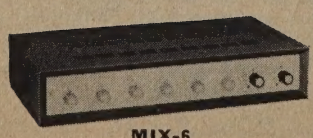
Bell Model TT-100—Net Each.....**$150.00**

MIXABLE MIXERS

MIX-6 is a combination unit of mixer and preamp. Ideal for integration of telephone, microphone, program preamps and signalling, or alarm tone generators. Control functions such as priority paging, remote volume control, volume limiting are also available. MIX-12 is two MIX-6's in a single package for up to six channel stereo mixing. Paralleling outputs makes a 12-channel monaural mixer. Mixers are to be used with modular amplifiers as shown on the next page.

Bell Model MIX-6 Basic Mixer—Net Each.....**$ 67.50**

Bell Model MIX-12 Basic Mixer—Net Each.....**127.50**



MIX-6

AMPLIFIER PLUG-IN ACCESSORIES

Bell Model 2274 Microphone Transformer—Low impedance. Net Each.....**$14.03**

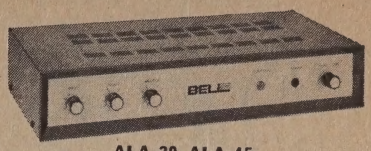
Bell Model 2275 Line Transformer—600-ohm. Net Each.....**13.50**

Bell Model 93A1 Remote Microphone Relay Kit—Net Each.....**18.00**

BELL p/a Sound Equipment

SERIES TPA AND ALA TRANSISTORIZED AMPLIFIERS

All silicon, solid state circuitry with special low-noise FET in front end and four feedback loops for stable operation and low driving impedance. Incorporates exclusive, fully automatic Bell PA sensor circuit for protection against overload or short circuit. Full bass and treble controls plus master gain control on front panel. **Regulation:** Better than 3 dB overall, 1 dB at 1000 Hz. **Frequency Response:** ±1 dB, 20–20,000 Hz. **Hum and Noise Level:** 90 dB below rated output. **Gain:** 75 dB aux input. **Input Sensitivity:** 150 mV. **Inputs:** Aux (high impedance, high level); balanced 600 ohms with optional 2275 plug-in transformer. **Tone Control:** 12 dB boost, 15 dB cut 10,000 Hz treble; 16 dB boost, 14 dB cut to 50 Hz bass. Available rack mounted, prices on request.



ALA-20, ALA-45
TPA-20 and TPA-45

MODEL TPA-20 POWER AMPLIFIER

Output Impedance: 4, 8, 16, 41 (bal. 25 V), 333 (bal. 70 V) ohms. **Power Response:** 50–20,000 Hz, 15 W at less than 2%. **Power Required:** 50 W, 120 V, 60 Hz. **Size:** 16¼" w. x 8½" d. x 3¼" h. Weight, 16 lbs.
Bell Model TPA-20 Power Amplifier—Net Each.....**$147.00**
Bell Model ALA-20 Limiting Amplifier—Similar to above, but provides automatic limiting of input signals. Same specifications. Net Each.....**$147.00**

MODEL TPA-45 POWER AMPLIFIER

Output Impedance: 4, 8, 16, 21 (bal. 25 V), 167 (bal. 70 V) ohms. **Power Response:** 50–20,000 Hz, 30 W at less than 2%. **Power Required:** 100 W, 120 V, 60 Hz. **Size:** 16¼" w. x 8½" d. x 3¼" h. Weight, 17 lbs.
Bell Model TPA-45 Power Amplifier—Net Each.....**$188.10**
Bell Model ALA-45 Limiting Amplifier—Similar to above, but provides automatic limiting of input signals. Same specifications and size. Net Each.....**$188.10**

ALA-90, ALA-200,
TPA-90 and TPA-200

MODEL TPA-90 POWER AMPLIFIER

Output Impedance: 4, 8, 16, 10 (bal. 25 V), 80 (bal. 70 V) ohms. **Power Response:** 50–20,000 Hz, 60 W at less than 2%. **Power Required:** 150 W, 120 V, 60 Hz. **Size:** 16¼" w. x 10¼" d. x 4¾" h. Weight, 22 lbs.
Bell Model TPA-90 Power Amplifier—Net Each.....**$246.90**
Bell Model ALA-90 Limiting Amplifier—Similar to above, but provides automatic limiting of input signals. Same specifications and size. Net Each.....**$246.90**

MODEL TPA-200 POWER AMPLIFIER

Output Impedance: 4 (bal. 25 V CT), 8, 16, 32 (bal. 70 V CT) ohms. **Power Response:** 50–20,000 Hz, 150 W at less than 2%. **Power Required:** 350 W, 120 V, 60 Hz. **Size:** 16¼" w. x 10¼" d. x 4¾" h. Weight, 29 lbs.
Bell Model TPA-200 Power Amplifier—Net Each.....**$345.00**
Bell Model ALA-200 Limiting Amplifier—Similar to above, but provides automatic limiting of input signals. Same specifications and size. Net Each.....**$345.00**
Bell Model 2275 600-Ohm Plug-In Transformer—Optional accessory. When used with above TPA Series, amplifiers are ideal for telephone paging systems or as a booster amplifier for paging with an intercom system. Net Each.....**$13.50**

MODULAR TRANSISTORIZED AMPLIFIERS

MOD Series modular amplifiers incorporate the TPA Series in a unique package concept that makes possible a virtually unlimited number of applications. Full fidelity, heavy duty construction, conservatively designed to meet the most extreme performance requirements within each power range. Each is equipped with one high impedance mike preamp (Model MMH-1) and one high impedance, high level aux program preamp (Model PMH-1). Six other preamp modules may be added for a total of 8, to satisfy input requirements of nearly any installation. Modules are simple to install in field, requiring no special tools or wiring. Stacking principle utilized permits unusual design flexibility. Channel 1 (to extreme right, facing front of unit) is base channel and all input modules are stacked to left. Special control modules, such as Priority Paging or Limiter, may be placed in any channel so as to mute or limit the gain of all inputs to the left of its position. Possible to control from one to all seven other inputs. When designing a system, it is recommended that MOD Basic unit be special-ordered with required input configuration. Completed unit will be shipped from factory, ready to operate. Input modules can be supplied with any standard audio input connector on special order. Complete information on input modules and specs available.

MOD-20 and MOD-45

MODULAR TRANSISTORIZED AMPLIFIERS WITH PREAMPLIFIERS

Specifications same as TPA Series (MOD-20 same as TPA-20, etc.) except: **Gain:** 130 dB mike; 90 dB program. **Input Sensitivity:** 1 mV mike; 100 mV program. **Inputs:** Aux (high impedance, high level); balanced 600-ohm with optional 2275 plug-in transformer; high impedance mike; aux. **Size:** 16¼" w. x 8½" d. x 6¼" h., MOD-20 and MOD-45; 16½" w. x 10¼" d. x 7¾" h., MOD-90 and MOD-200.
Bell Model MOD-20 Modular Amplifier—Weight, 19 lbs. Net Each.....**$168.00**
Bell Model MOD-45 Modular Amplifier—Weight, 20 lbs. Net Each..... **207.60**
Bell Model MOD-90 Modular Amplifier—Weight, 25 lbs. Net Each..... **270.00**
Bell Model MOD-200 Modular Amplifier—Weight, 32 lbs. Net Each..... **367.50**

BASIC MODULAR TRANSISTORIZED AMPLIFIERS WITHOUT PREAMPLIFIERS

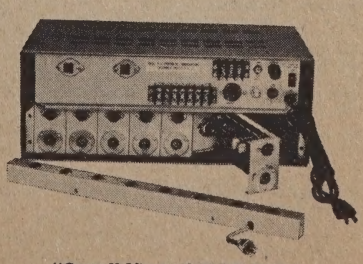
Same as above except less Model MMH-1 and PMH-1 preamps.
Bell Model MOD-20B Basic Modular Amplifier—Weight, 18 lbs. Net Each..**$168.00**
Bell Model MOD-45B Basic Modular Amplifier—Weight, 19 lbs. Net Each.. **207.60**
Bell Model MOD-90B Basic Modular Amplifier—Weight, 24 lbs. Net Each.. **270.00**
Bell Model MOD-200B Basic Modular Amplifier—Weight, 31 lbs. Net Each. **367.50**

MOD-90 and MOD-200

MODULAR INPUT PREAMPS

Bell Model	Description	Net Each
MMH-1	Mike preamp, high impedance (1 megohm)	$21.00
MMH-2	Mike preamp, high impedance, precedence paging	28.50
MML-1	Mike preamp, balanced low impedance, 50 to 250 ohms	33.75
MML-2	Mike preamp, balanced low impedance, precedence paging	41.25
OML-1	600-ohm balanced output line driver module	34.50
OMR-1	600-ohm balanced output line driver module	21.00
PMH-1	Program preamp, high impedance, high level	18.00
PMH-3	Magnetic phono and tape head	30.00
PML-1	Program preamp, balanced 600 ohms	31.50
PML-2	Program preamp, bal. 600 ohms, precedence paging	39.00
RVM-1	Remote volume control	30.00
TGM-2	Chime tone generator	36.00
TGM-3	Yelp siren	36.00
TGM-4	Wail siren	36.00
TGM-5	Continuous tone siren	36.00
VLM-1	Volume limiting module	33.00

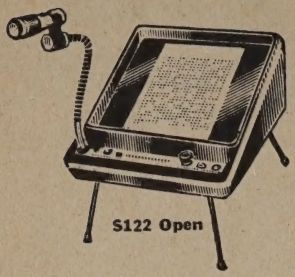
ALL BELL PA POWER AND PROGRAM UNITS ARE AVAILABLE WITHOUT CABINETS AND EQUIPPED WITH A SPECIAL FRONT PANEL FOR STANDARD RACK CONSOLE MOUNTING. RACK PANEL KITS AVAILABLE FOR ANY BELL PA UNIT.



"Open" View of MOD Series

Perma Power® PORTABLE SOUND SYSTEMS AND ACCESSORIES

AMPLI-VOX ROVING ROSTRUM® CORDLESS PA SYSTEM



S122 Open

S122 Closed

Completely portable, battery-powered, high volume sound system in a single, streamlined case. Provides 35 watts, 40 watts with AC adapter (ANSI)—sufficient for audiences of 1,000 persons—yet weighs only 22 lbs. Fidelity and clarity is amazing on both voice and music. All-transistor design. Operates on long-lasting flashlight batteries; can be used indoors or out, requiring no electrical outlets; gives maximum reliability and dependability; needs no warm-up time. Handsome, luggage style case of scuff-proof Royalite* has built-in, retractable legs for greatest convenience. **Amplifier:** 35-watt, all-transistor; 40 watts peak. **Microphone:** Low impedance, omnidirectional dynamic type. Adjustable gooseneck stand and lavalier cord. Cardioid mike also available (50–15,000 Hz): High quality, directional for greater talking distance from mike and better performance. **Speakers:** Two 6″ x 9″, full-fidelity types with 10 oz. ceramic magnets; supplied in anti-feedback enclosures—one in reading table, other in case cover. **Inputs:** For mike and auxiliary. **Outputs:** For aux speaker or tape recorder. **Power Source:** Ten Type "D" batteries (alkaline type recommended) provide 200 hours of operation; AC power supply available. **Size:** Overall, 16¾″ w. x 17¼″ d. x 8⅞″ h. Shipping Weight, 24 lbs. less batteries.

*U.S. Rubber trademark.

Ampli-Vox Model S122 Roving Rostrum—With cardioid mike; less batteries. Net Each.....**$274.50**

Ampli-Vox Model S112 Roving Rostrum—With omnidirectional mike; less batteries. Net Each.....**$234.50**

Ampli-Vox Model S1400 AC Adapter—Converts S112 and S122 for 105–125 VAC 60 Hz plug-in use. UL Recognized. Shipping Weight, 2 lbs. Net Each.....**$37.95**

Ampli-Vox Model S1100 Reading Light—Supplied with 25-watt show case bulb. AC operation only. Net Each.....**$6.50**

AMPLI-VOX DIPLOMAT

S210 Diplomat

S702 Portable Amplifier

Complete high volume, battery-powered PA system in attache-type carrying case. Operates on 10 flashlight batteries; weighs only 16½ lbs.—yet delivers perfect sound to audiences of over 500 people, indoors or out. All-transistor design: Needs no warm-up, sets up in seconds. Ideal for mobile use, clubs, picnics, rallies, dances, sales meetings, lectures, etc. Entire system is contained in one handsome sturdy case. **Amplifier:** All-transistor design delivers 35 watts, nominally battery powered, 40 watts with AC adapter. **Inputs:** For mike and auxiliary. **Outputs:** For aux speaker or tape recorder. **Power Source:** Ten "D" batteries (alkaline recommended) provide 200 hours of operation. **Microphone:** Cardioid dynamic; with 10′ cable, desk stand and lavalier. **Speaker:** Full-fidelity, 6″ x 9″, with 10 oz. ceramic magnet and 40′ cable for optional use away from amplifier. Extra cable and extension speaker may be added. Matched to carrying case. **Overall Size:** 19″ w. x 4¼″ d. x 12″ h. Shipping Weight, 20 lbs. less batteries.

Ampli-Vox Model S210 Diplomat—With cardioid microphone but less batteries. Net Each.....**$184.50**

Ampli-Vox Model S1410 AC Adapter—Converts S210 for 105–125 VAC 60 Hz plug-in use. UL Recognized. Shipping Weight, 2 lbs. Net Each.....**$37.95**

Ampli-Vox Model S702 Portable Amplifier Only—Cordless power portable operates on flashlight batteries; converts to AC or mobile DC operation. Delivers 40 watts power to handle audiences up to 5000. Inputs for mike and phono/tape recorder. Outputs for speakers and tape recorder (independent of volume setting). Marine corrosion-resistant. Net Each.....**$94.50**

AMPLI-VOX PORTABLE ANNOUNCER

Complete high-volume PA system in attache-type carrying case. Operates on AC or batteries; has battery life extender. Single-knob control. Multiple inputs for additional microphones and amplification of external music source. **Amplifier:** 30-watt, solid state. **Microphone:** Cardioid with 15-ft cord. **Speaker:** 9″ oval. **Size:** 19″ w. x 4″ d. x 12″ h. Wt., 8 lbs. **Ampli-Vox Model S220 Portable Announcer**—With cardioid mike but less batteries. UL Listed. Net Each.....**$114.50**

ALL-TRANSISTOR MOBILE AND BACKGROUND MUSIC AMPLIFIERS

AMPLI-VOX S302 MOBILE/MARINE AMPLIFIER

All solid state, 32 watts continuous, amplifier delivers superior sound distribution for boat, truck, police car, CD, campaign and other vehicular use. Front-panel inputs and outputs are plug-in type for added convenience. Controls include master volume, aux volume and tone control. Powerful enough to cover audiences of 5000 people with maximum voice penetration and intelligibility due to wide-range frequency response. Marine corrosion-resistant. **Inputs:** Mike and phono/tape on front panel. **Outputs:** Two speaker outputs on front panel. **Power Source:** 12 VDC battery with automatic polarity protection and automatic over-voltage protection. Comes with extra-long power cords that plug into cigarette lighter or connect to battery terminals. Converts to flashlight battery or AC power source with adapter, below.

Ampli-Vox Model S302 Amplifier—Net Each.....**$114.50**

Ampli-Vox Model S1410 AC Power Adapter—For 105–125 VAC, 60 Hz operation of system or amplifier. Net Each.....**$37.95**

Ampli-Vox Model S1420 Battery Pack—Separate power pack uses 10 flashlight batteries (not supplied). Net Each.....**$8.95**

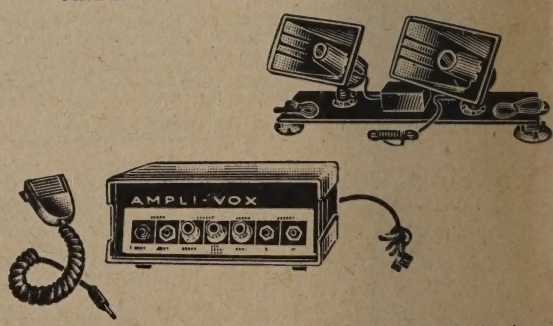
Ampli-Vox Model S1210 Car Top Speaker Assembly—Two weatherproof horn speakers supplied mounted on car-top carrier ready to clamp to car. Completely wired. Use with S302 amplifier or with S310 system. Shpg. Wt., 17 lbs. Net Each.....**$108.00**

MODEL S402 COMMERCIAL AMPLIFIER

Powerful transistor plus IC design amplifier for background music and paging applications. Ideal for small industrial plants, restaurants, hotels and motels, schools, churches, meeting rooms, clubs, supermarkets, dept. stores, etc. Compact size perfect for mounting in desk drawers, under tables or counters, in cabinets, etc. Volume control has loudness contour to permit maximum utilization of power at all levels. Operates from 110 VAC, 60 Hz line or 12 VDC from battery terminals. Marine corrosion-resistant. Can power more than 50 speakers to cover audiences up to 5000. **Power Output:** 32 watts continuous with DC source. **Frequency Response:** Low distortion, wide range at all operating levels. **Inputs:** Two: mike (on front panel), and phono/tape recorder. **Outputs:** For 8 speaker systems; option for connection to 25 and 70.7 volt speaker systems. **Controls:** Input Selector; Master Volume; Mike Volume; Tone. Paging override provided. **Power Source:** 110 VAC, 60 Hz or 12 VDC battery terminals. Built-in battery charger for use with externally connectable rechargeable batteries (not supplied).

Ampli-Vox Model S402 Commercial Amplifier—Net.**$124.50**

AMPLI-VOX SOUND CRUISER SYSTEM

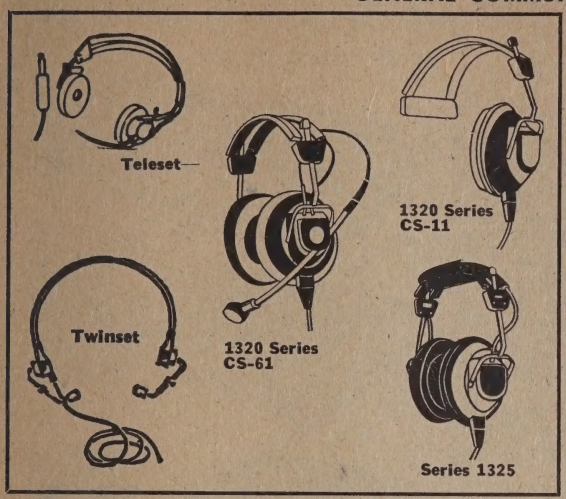


Clear, powerful mobile soundcasting ideal for cars, trucks, buses and boats. Ruggedly built to take punishment. **Amplifier:** 32 watt push-pull all-transistor design. **Microphone:** Noise cancelling hand-held microphone with 5′ coil cord, push-to-talk switch and mounting clip. **Speakers:** Two weatherproof horn speakers swivel and lock in any direction. Mounted on car-top carrier ready to clamp to car. **Inputs:** Microphone and auxiliary. **Outputs:** Two 8 to 16 ohm speakers or recorders. **Power Source:** 12 VDC plugs into auto cigarette lighter socket; automatically polarizes to system. Terminals provided for permanent installation. AC and flashlight battery power packs available. Shpg. Wt., 27 lbs.

Ampli-Vox Model S310 Sound Cruiser System—Net..**$254.50**

COMMUNICATIONS AND DICTATION HEADSETS, ACCESSORIES

GENERAL COMMUNICATIONS HEADSETS



TWINSET® HEADSET

Featherweight magnetic headset expressly designed for long periods of listening—weighs just 1.6 oz. Can be worn for hours without discomfort. Perfect for both stationary and mobile Citizens' Band, ham and similar applications. With 5′ cord and std. ¼″ phone plug.

Telex HTW-2 Cat. No. 03775-01 (500 ohms) or **HTX-2 Cat. No. 19181-01** (1000 ohms) **Twinset**—Net Each.....**$15.65**

TELESET® HEADSET

Rugged, low-cost dual magnetic earphones of stainless steel and high impact plastic. Vinyl-covered cord has built-in strain relief. Yoke allows 180° cup rotation. Response, 50–10,000 Hz. Net weight, 8 oz. Color, tan and brown. With 5′ cord and std. ¼″ phone plug.

Telex HM-100 Cat. No. 60500-02 (2000 ohms) or **HM-500 Cat. No. 60500-04** (500 ohms) **Teleset**—Net Each.....**$18.50**

SERIES 1325 STEREO HEADPHONES

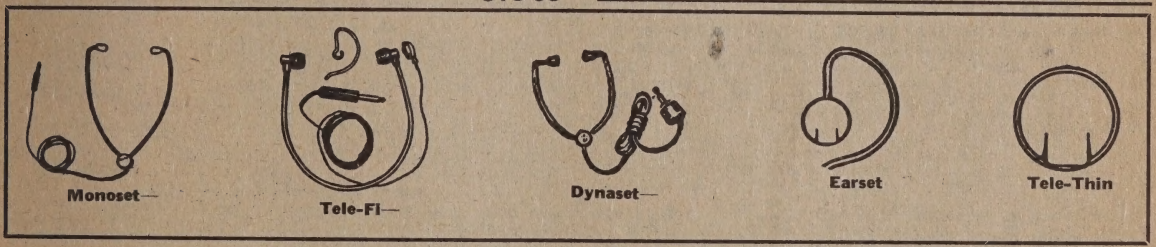
Superb two channel broadcast headphone is suited to monitor stereo or mono broadcasts. Not affected by change in environmental conditions. Made of impact resistant ABS plastic and stainless steel. Handsomely styled in light tan with dark green trim, comes with 12-ft. long detachable coil cord. **Impedance:** 600 or 6000 ohms per side. **Sensitivity:** 105 ±5 dB at 1 kHz with 1 mW input. **Frequency Response:** 20–20,000 Hz usable.

Telex Series 1325 Cat. No. 61325-02 (600 ohms) or **Cat. No. 61325-03** (6000 ohms) **Stereo Headphones**—Net Each...**$49.95**

SERIES 1320 HEADPHONES AND HEADSETS

Reliable headphones for communications and broadcast monitoring. Available in single and dual phone models; exclusive audiometric type driver elements withstand sound pressure levels in excess of 130 dB. Also available as headsets with either dynamic noise cancelling or carbon mike. Comes in black and gray with 5′ cord and standard ¼″ plug (two plugs for headset with boom mike). **Impedance:** 600 ohms in series circuit. **Sensitivity:** 105 ±5 dB at 1 kHz with 1 mW input. **Frequency Response:** 20–20,000 Hz usable. **Mike Impedance:** Dynamic, 150 ohms; carbon, 20–50 ohms. **Mike Sensitivity:** Dynamic, −67 dB; carbon, −18 dB. **Mike Frequency Response:** Dynamic, 100–8,000 Hz ±5 dB; carbon, 500–6,000 Hz. Weight, all single phone types, 12 oz.; CS-7, 15 oz.; CS-45 and CS-61, 18 oz.

Model	Cat. No.	Description	Net
CS-11	61320-06	Single phone, no mike	$21.95
CS-75	61320-09	Single phone, dynamic mike, 2 plugs	35.60
CS-78	61320-10	Single phone, carbon mike, 2 plugs	35.60
CS-7	61320-05	Dual phones, no mike	29.95
CS-61	61320-08	Dual phones, dynamic mike, 2 plugs	42.50
CS-45	61320-07	Dual phones, carbon mike, 2 plugs	42.50



DICTATION-TYPE HEADPHONES

MONOSET® HEADPHONE

Lightweight, under-the-chin magnetic headphone ideal for transcribing from dictating machines. Cord can't get in the way. Snap-out receiver for easy replacement. Response, 50–5,000 Hz. Handles 25 mW max. With 5′ detachable cord and std. ¼″ plug.

Telex HMV-2 Cat. No. 18183-00 (125 ohms) or **HMY-2 Cat. No. 18184-00** (2000 ohms) **Monoset**—Net Each.....**$9.75**

TELE-FI® HEADPHONE

Sound reaches one ear a millisecond after the other ear, creating greater depth and clarity. Fine for secretarial or entertainment use. Receiver snaps onto headphone or slips in slot of plastic Earset®. Response, 50–5000 Hz. Handles 25 mW max. Includes earloop, 5′ cord and std. ¼″ plug.

Telex HFR-91 Cat. No. 18135-00 (15 ohms), **HFV-91 Cat. No. 18135-03** (125 ohms), **HFW-91 Cat. No. 18135-05** (500 ohms), **HFX-91 Cat. No. 18135-07** (1000 ohms) or **HFY-91 Cat. No. 18135-09** (2000 ohms) **Tele-Fi**—Net Each.....**$5.95**

DYNASET® HEADPHONE

Versatile, under-the-chin magnetic headphone excellent for TV and radio monitoring, record listening, office equipment and commercial applications. Provides clear reproduction of music or speech; sound travels through acoustical tubing for better reproduction. Response, 50–5000 Hz. Sensitivity, approx. 105 dB above .0002 dynes/cm² for 1 mW input. Impedance, 15 ohms. Handles 25 mW max. With 5′ acoustical tubing and std. ¼″ phone plug.

Telex HUP-01 Cat. No. 06701-01 Dynaset—Net Each..**$12.65**

EARSET® EARPHONE

A hi-fi earphone that slips onto the ear. Weighs only ½ oz. Uses sealed, rustproof magnetic receiver. Provides comfortable listening at 0.1 mW. Includes earloop, 5′ cord and std. ¼″ plug.

Telex EMR-2 Cat. No. 60194-03 (15 ohms), **EMV-2 Cat. No. 60194-01** (125 ohms), **EMW-2 Cat. No. 60194-00** (500 ohms), **EMX-2 Cat. No. 60194-02** (1000 ohms) or **EMY-2 Cat. No. 60194-04** (2000 ohms) **Earset**—Net Each.....**$6.70**

TELE-THIN® REPLACEMENT RECEIVERS

Replacement magnetic receivers for Earset, Tele-Fi and Tele-Ear acoustical shells. No. RTY-04 fits Persona-Phone.

Telex RTR-04 Cat. No. 60012-00 (15 ohms), **RTV-04 Cat. No. 60012-03** (125 ohms), **RTW-04 Cat. No. 60012-05** (500 ohms), **RTX-04 Cat. No. 60012-07** (1000 ohms) or **RTY-04 Cat. No. 60012-09** (2000 ohms) **Tele-Thin**—Net Each.....**$2.79**

HEADSET ACCESSORIES

Model No.	Catalog No.	Description	Net Each
AEM-2	18013-00	Tele-Ear acoustical shell	$1.48
AEF-2	09252-00	Plastic-covered metal earloop for Earset, Telethin	.50
AEF-3	18304-00	Same, but nylon earloop	.21
AFC-1	18068-00	Tele-Fi under-chin tube with foam cushions	1.17
CMT-2	60013-00	Gray 5′ cord with std. ¼″ plug for Tele-Fi, Monoset	2.25
CMT-92	60013-13	Same, but with 90° .140″ dia. plug	1.95
CMT-98	60013-15	Same as CMT-2, but straight .140″ plug	2.25
CCT-2	19652-00	Gray 5′ coil-cord with std. ¼″ plug for Tele-Fi, Monoset	3.25
PM-01	09231-00	Straight miniature .140″ plug	.93

Model No.	Catalog No.	Description	Net Each
VVT-2	12045-00	Gray 5′ volume control cord with ¼″ plug for Tele-Fi, Monoset; 15–125 ohms	$8.22
VXT-2	12046-00	Same, but 500–1000 ohms	8.22
VYT-2	12172-00	Same as VVT-2, but 2000 ohms	8.22
VXM-2	02845-00	5′ vol. control cord, 500–1000 ohms, with ¼″ plug for Twinset	7.03
VYM-2	02844-00	Gray 5′ vol. control cord with ¼″ plug for magnetic pillow spkrs.; 2000 ohms	8.22
VMD-2	09238-00	Gray 5′ vol. control cord with ¼″ plug for dynamic pillow spkrs.; 10,000 ohms	6.40
JMP-01	09245-00	Miniature .140″ jack, NC, panel mount	.50
JMP-02	12102-00	Miniature .140″ jack, NO, panel mount	.50

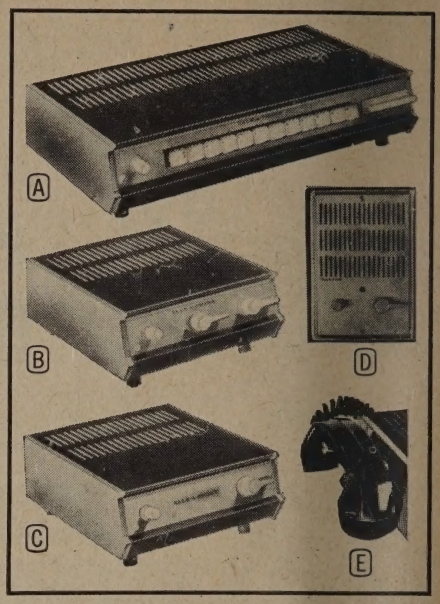
Talk-A-Phone Intercoms

"CHIEF" TALK-A-PHONE...ONE MODEL THAT MEETS EVERY REQUIREMENT

Sets a high standard for versatility and flexibility to meet every intercom need of office, factory, institution or home. Convenient pushbutton operation for instant, direct, two-way communication. Reduces load on busy switchboards. Exciting, modern cabinetry combines the look and feel of fine grained leather with the strength and rigidity of steel; resistant to corrosive chemicals and atmospheres; finished in charcoal gray with brushed chrome sides and front panels.

"CHIEF" UNIVERSAL MASTER STATIONS (FIG. A)

The "Chief," with its dynasonic design, can be used in any combination—with all Master Stations—one Master and Staff Station—or a number of Masters combined with Staff Stations. 6, 12, 20, 30, 40 and 50 Station Masters, together with Staff Stations can be intermixed in the same system. Masters can talk with any other Master, as well as with Staffs. Staff Stations can answer all Masters and can originate calls to as many as 2 "private" Masters, depending upon Staff's capacity. Staff stations are not connected to electrical outlet. **Features:** All-transistor system with high gain amplifier; incorporates touch control talk-listen switch. Both Masters and Staffs equipped with busy signal that is provided with over-ride when conversation is urgent. Both Masters and Staffs are provided with an incoming call light; Masters provided with additional chime which may be cut off at user's convenience. All units may be operated both "privately" or "non-privately." Master includes junction box attached by flexible cable and built-in power supply. Reciprocal Power Supply is designed to permit up to 30% of the "Chief" Masters in a system not plugged into electrical outlets. (For best performance, however, each Master should have its own electrical outlet.) Each Master also supplied with provision for activating external relays to turn on sirens, gongs, lights, etc. **Dynasonic Design:** Permits intermixing of units, variation of performance, and additions to systems at any time. Staff Stations can be "private," or "non-private." Any Staff Station can be "non-private" to one or more Masters and "private" to others. **Multi-Magic Selector:** Allows selection of up to 30 stations with 12 pushbuttons. **Uni-Trans:** Unique provision for dictation permits speaking without operating any controls. **Optional LD Long Distance:** Available at slight additional cost built-in at factory; allows up to 40 miles of cable between Master stations. **Power:** 120 VAC. **Size:** 14" w. x 8¾" d. x 3⅛" h., Masters. UL Recognized.



T-A-P Model	Fig.	Description	Wt., Lbs.	List Price	Net Each
K-C-4906	A	6-station Master	15	$245.00	$144.00
K-C-4912	A	12-station Master	15	276.00	162.00
K-C-4920	A	20-station Master	16	327.00	192.00
K-C-4930	A	30-station Master	18	368.00	216.00
K-C-4940	A	40-station Master	20	409.00	240.00
K-C-4950	A	50-station Master	22	450.00	264.00

"CHIEF" REDI-POWER MASTER STATION (FIG. A)

All the operational features listed above, plus built-in extra power for use when needed. This added power (up to 30 watts), gives additional volume needed when calling a number of stations at one time or calling noisy locations. Return speech from called stations is received at normal volume. Needs no separate power booster which would eliminate return speech. Has self-compensating volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its predetermined volume with no division of output when you call more stations at one time. One or more Redi-Powers can be combined with regular Master and Staff Stations in same system. 120 VAC only. UL Recognized.

Talk-A-Phone Model K-CRP-5912—12-station Redi-Power Master. Wt., 20 lbs. List Price **$417.00.** Net Ea. **$245.00**

Talk-A-Phone Model K-CRP-5920—20-station Redi-Power Master. Wt., 21 lbs. List Price **$468.00.** Net Ea. **$275.00**

Talk-A-Phone Model K-CRP-5930—30-station Redi-Power Master. Wt., 23 lbs. List Price **$509.00.** Net Ea. **$299.00**

"CHIEF" STAFF STATIONS (FIGS. B, C & D)

For use with any "Chief" Master, Staff Stations may be connected "privately" or "non-privately". Connected "non-privately", persons can answer Master at a distance from the Staff without operation of any controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether connected directly with them or not) and can originate calls to one or two Masters, depending upon its capacity. Connected "privately" no one can "listen-in", but any Master can call. Private Staff can originate calls and reply to one or two Masters, depending on its capacity. Staff Stations do not need electrical outlet. **Features:** Touch control talk-listen switch; incoming call light; busy signal indicator with over-ride feature for urgent communications. Cabinet design matches Masters; fine grained leather look with strength of steel; resists corrosive atmospheres; charcoal gray finish with brushed chrome side and front panels. Metal cased units; finished in charcoal gray. **Size:** 7½" w. x 8¾" d. x 2⅜" h.

T-A-P Model	Fig.	Description	Wt., Lbs.	List Price	Net Each
K-C-41	C	Originates calls to 1 Master	5	$64.60	$37.70
K-C-41M#	C	Originates calls to 1 Master	5	54.00	31.70
K-C-42	B	Originates calls to 2 Masters	5	80.00	47.00
K-C-42M#	B	Originates calls to 2 Masters	5	70.00	41.00
K-C-41R‡	D	Flush-mt. Staff Station	4	54.00	31.70
K-C-42R‡	D	Flush-mt. Staff Station	5	70.00	41.00
K-SM-L	...	Wall mtg. for K-C-41R, -42R	2	10.90	6.40
K-HP-3	...	Wall mtg. metal case Staff*	9	50.20	29.50
K-HP-3V	...	Same w/built-in vol. control	....	60.80	35.50
K-C-20	...	Weatherproof re-entrant horn†	5	68.00	39.95
K-C-20V	...	Same w/built-in vol. control†	....	89.00	52.20

*Capacity, 5 watts. †Capacity, 15 watts. #Grained baked enamel finish. ‡With plaster ring; stainless steel front panel 4¹³⁄₁₆" w. x 7⅛" h.; requires 4⅛" w. x 6½" h. x 2" d. wall opening.

OPTIONAL ACCESSORIES

POWER BOOSTER

Provides ample power for paging, with 50-watt output. Use to connect group of paging speakers that cannot reply or originate calls. When used with Model K-RW-10 or K-RW-20 Right-of-Way Relay, these units can then originate calls in regular manner. 120 VAC. Size, 12" x 7⅜" x 8¼" h. Wt., 24 lbs.

Talk-A-Phone Model K-HP-50—Power booster. List Price **$199.95.** Net Each..... **$117.50**

CRADLE PHONE (FIG. E)

Available installed on all models Masters or Staffs except metal cased and built-in units. Weight, 3 lbs. Add "**H**" to model number when ordering.
Add to List Price, **$74.00.** Add to Net..... **$43.50**

WALL MOUNTED CRADLE PHONE

Use as many as needed in combination with a remote speaker, as Model K-HP-3, -3V; K-C-20, -20V.

Talk-A-Phone Model K-S-111—List **$94.50.** Net Each..... **$55.50**

LD LONG DISTANCE FEATURE

Available on all Masters; extends range up to miles of cable between Masters. Add suffix **"LD"** to model number when ordering. Add to List **$24.00.** Add to Net..... **$13.95**

WALL SWITCHES

Talk-A-Phone Model K-S-101—Provides for origination of call to one Master through Models K-C-20, -20V or K-HP-3, -3V in "Chief" systems. Wt., 1 lb. List, **$22.50.** Net... **$13.20**

Talk-A-Phone Model K-S-102—Provides for origination of call selectivity to two Masters through Models K-C-20, -20V; K-HP-3, -3V in "Chief" systems. Wt., 1 lb. List Price, **$36.60.** Net Each..... **$21.50**

INTERCOM WALL BRACKETS

Wall mounting brackets for K-C-41, K-C-41M, K-C-42 and K-C-42M Staff Stations. Weight, 1 oz. per pair.

Talk-A-Phone Model K-W1 Wall Bracket—
List Price, Pair, **$1.00.** Net per Pair..... **$0.60**

RIGHT-OF-WAY RELAY

For use with Redi-Power Masters to call any group of stations with a single button. Connects to one Master; others in system also utilize the facility.

Talk-A-Phone Model K-RW-10—Right-of-Way Relay. Capacity up to 10 stations. Weight, 7 lbs. List Price **$101.00.** Net Each..... **$59.20**

Talk-A-Phone Model K-RW-20—Right-of-Way Relay. Capacity up to 20 stations. Weight, 14 lbs. List Price **$186.00.** Net Each..... **$109.00**

CABLE REQUIREMENTS

To interconnect Masters, measure from the first Master to second Master only; second Master to third Master only, etc., until the last unit in the system is reached; total. For 20-station Masters, use two lengths of No. 6226 cable; for 30-station Masters, use three lengths; etc. To connect single-call Staff stations and re-entrant horn, measure from Staff to the one Master to which the Staff is to originate calls. For units originating calls to 2 Masters, measure a separate length of cable from Staff to each Master.

Talk-A-Phone No. 6206 Cable—Connects Staff stations to Masters. List per Foot, **$0.24.** Net per Foot..... **$0.14**

Talk-A-Phone No. 6214 Cable—For interconnecting Model K-C-4906 Masters. List per Foot, **$0.50.** Net per Foot..... **$0.29**

Talk-A-Phone No. 6226 Cable—For interconnecting any Master other than Model K-C-4906.
List per Foot, **$0.98.** Net per Foot..... **$0.57**

Talk-A-Phone No. 6902 Cable—For connecting re-entrant horn or wall mounting Staffs without origination of call.
List per Foot, **$0.06.** Net per Foot..... **$0.035**

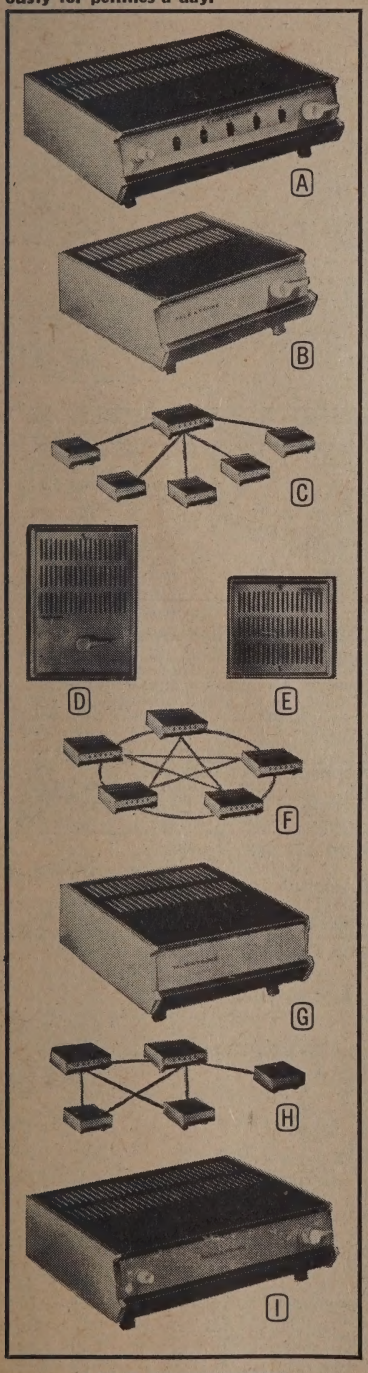
Talk-A-Phone No. 6202 Cable—Use in place of No. 6902 where an overall jacket is desired.
List per Foot, **$0.10.** Net per Foot..... **$0.06**

Talk-A-Phone Intercoms

DELUXE INTERCOM SYSTEMS

Instant, direct two-way conversations are provided at a flick of a finger. Modern, custom designed cabinetry combines the look and feel of fine grained leather; rigid and strong as steel; charcoal gray and brushed chrome finish resists abuse. Masters have translucent illuminating indicator when "on". **Size:** Master, 10½" w. x 8¾" d. x 3⅛" h.; substations, 7½" w. x 8¾" d. x 2⅛" h.

Quality systems for office, industry, and home. Installs easily. Operates continuously for pennies a day.



CABLE REQUIREMENTS

For Master Selective Systems: Measure from each Substation to Master and order total. **For Super Selective Systems:** Measure from first Master to second Master, only; second to third Master, only, etc., and total. Cable between first and last Master not necessary. **For Combination Systems:** Measure for Masters as in Super Selective System; then measure each Sub-Station to nearest Master.

TRANSISTORIZED MASTER SELECTIVE SYSTEMS (FIGS. A, B, C & D)

Consists of one Master and one to ten Sub-Stations, arranged as in Fig. C. Master can talk and listen to any or all Sub-Stations. Sub-Stations do not communicate with each other. Only the Master plugs into electrical outlet. Start with only one Master and one or two Sub-Stations and add more when necessary. Sub-Stations can be connected "privately" or "non-privately" and still originate calls to Master. Once a conversation has been initiated with "non-private" system, Sub-Stations need operate no controls and can reply from a distance. For "private" operation, Master cannot "listen in" on Sub-Stations. However, they can reply when called and can originate calls to the Master. Operates universally on 110–120 VAC/DC. UL Recognized. **Models K-AC-5406, -5411** have added feature of 10 times the volume output; for use in large or noisy locations; 120 VAC only. **Only one Master may be used in these systems.** Use No. 5303 or 6303 cable listed below.

Model	Fig.	Description	Lbs.	List	Net
K-ML-5	A	Master that handles up to 5 Sub-Stations	7	109.00	**$64.00**
K-ML-10	A	Master that handles up to 10 Sub-Stations	7	135.00	**79.00**
K-AC-5406	A	High volume output Master for up to 5 Sub-Stations	7	135.00	**79.00**
K-AC-5411	A	High volume output Master for up to 10 Sub-Stations	7	160.00	**94.00**
K-LR-3	B	Sub-Station for use with any Master	4½	47.00	**27.50**
K-LR-3M	B	Grained baked enamel finish version of K-LR-3	4½	37.50	**22.00**
K-LR-3R†	D	Flush-mtg. Sub-Station for above Masters	4	37.50	**22.00**
K-SM-L	....	Optional surface mount for K-LR-3R on wall	2	10.90	**6.40**
K-HP-3§	....	Hi-power Staff Station (wall mt.), gray metal case	9	50.20	**29.50**
K-C-20•	....	9" weatherproof re-entrant horn, gray color	5	68.00	**39.95**
K-S-100	....	Call origination wall switch for K-C-20 or K-HP-3	1	11.00	**6.40**
K-W1	....	Optional pair of wall brackets for K-LR-3, K-LR-3M	1 oz.	1.00	**.60**
"H"^	....	Cradle phone optional on all units except K-LR-3R, K-HP-3 & K-C-20. Add suffix **"H"** to model number.	3	74.00	**43.50**
5303	....	3-cond. indoor, Subs-to-Master cable	1#	.09*	**.05½***
6303	....	3-cond. shielded indoor-outdoor cable	2#	.13*	**.07½***

TRANSISTORIZED SUPER SELECTIVE SYSTEMS (FIGS. A & F)

A system of all Master Stations that interconnect as in Fig. F. Any station can call any other station, permitting several completely private conversations at the same time. Versatile, low cost system; stations can be located up to 1000 ft. apart. Each station has variable volume controlling incoming voice. Start with two or three Masters and add more later, as many as required. Operates universally on 110–120 VAC/DC. UL Recognized. **Models K-AC-505 and K-AC-510** have added feature of 10 times the volume output; 120 VAC only; cannot be intermixed with any other Master; ideal for noisy locations.

K-LS-5	A	Master for use in up to 5-Master system	7	109.00	**$64.00**
K-LS-10	A	Master for use in up to 10-Master system	7	135.00	**79.00**
K-AC-505	A	High volume Master for 5 Masters	7	135.00	**79.00**
K-AC-510	A	High volume Master for 10 Masters	7	160.00	**94.00**
"H"^	....	Cradle phone optional for any Master	3	74.00	**43.50**
5506	....	6-cond. cable for K-LS-5 and K-AC-505 systems	3#	.24*	**.14***
9911	....	11-cond. cable for K-LS-10 and K-AC-510 systems	5#	.45*	**.26***

TRANSISTORIZED COMBINATION SYSTEMS (FIGS. A, E, G & H)

A more flexible multiple-Master system with Sub-Stations that can answer, but cannot originate calls. Masters talk to Masters or Sub-Station selectively. All calls can be answered by personnel as far as 25 to 40 ft. away from unit. Master stations are optionally "private" or "non-private" at will. Only the Masters plug into the power source. Begin your system with two stations (one of which must be a Master) and add other units as required. For 110–120 VAC/DC. UL Recognized. **K-AC-605, K-AC-610** have added feature of 10 times the volume output; 120 VAC only; cannot be intermixed with other Masters.

K-CL-5	A	Master that handles up to 5 other stations	7	131.00	**$77.00**
K-CL-10	A	Master that handles up to 10 other stations	7	158.50	**93.00**
K-AC-605	A	High volume Master for 5-station use	7	158.50	**93.00**
K-AC-610	A	High volume Master for 10-station use	7	181.50	**106.50**
K-S-111■	....	Wall-mounted cradle phone for K-HP-3 or K-C-20	....	94.50	**55.50**
K-LR-2	G	Sub-Station for use with any Master	4½	47.00	**27.50**
K-LR-2M	G	Baked enamel finish version of K-LR-2	4½	37.50	**22.00**
K-LR-2R‡	E	Flush-mtg. Sub-Station for above Masters	4	37.50	**22.00**
K-SM	....	Optional wall surface mount for K-LR-2R	1	9.60	**5.50**
K-HP-3§	....	Hi-power staff station (wall mt.), gray metal case	9	50.20	**29.50**
K-C-20•	....	9" weatherproof re-entrant horn, gray color	5	68.00	**39.95**
K-W1	....	Optional pair of wall brackets for K-LR-2, K-LR-2M	1 oz.	1.00	**.60**
6210	....	5-pair cable for 5-station Masters	5#	.42*	**.24***
6226	....	13-pair cable for 10-station Masters	12#	.98*	**.57***
6902	....	2-conductor cable for Sub-Station to Master use	1#	.06*	**.03½***

*Per foot. †With plaster ring; requires 4⅛" w. x 6½" h. x 2" d. wall opening; stainless steel front panel measures 4¾6" w. x 7¾6" h. ‡Stainless steel front panel 4¹³⁄₁₆" sq.; requires 4⅛" sq. x 2" d. wall opening. #Wt. per 100'. §For built-in volume control, add suffix **V** (K-HP-3V); List **$60.80**; Net **$35.50.** •For built-in volume control, add suffix **V** (K-C-20V); List **$89.00**; Net **$52.20.** ^For separate, wall-mounted cradle phone, order K-S-111; List **$94.50**; Net **$55.50.** ■Used in combination with K-HP-3 or K-C-20.

TRANSISTORIZED TWO-STATION SYSTEM (FIGS. B & I)

Complete transistorized two-station system Master station, Sub-Station and 50 ft. interconnecting cable; additional cable is available for distances up to 2000 ft. Easy to install and operate. Sub-Station features built-in "private" or "non-private" selectivity; when "private", Master may not "listen in" though Sub-Station can answer or originate calls. Master is equipped with translucent indicator to show when system is "on". Amplifier is rugged, high-gain unit built to withstand continuous use and requiring a minimum of maintenance. Volume is fully adjustable. Cabinet finish is identical with multiple-system units, above. Operates universally on 110–120 VAC/DC. UL Recognized.

Talk-A-Phone Model K-LC-2 System—Complete with 50 ft. of cable. Weight, 11½ lbs. List Price, **$111.00.** Net Each..... **$65.00**

Talk-A-Phone Model H Cradle Phone—Wt., 3 lbs. List **$74.00.** Net Each..... **$43.50**

Talk-A-Phone Model K-W1 Wall Brackets—List per Pair **$1.00.** Net per Pair.. **.60**

Talk-A-Phone No. 5303 Cable—3-conductor cable. List per Foot, **$.09** Net..... **.05¼**

Talk-A-Phone No. 6303 Cable—3-conductor; Indoor-outdoor. List/Ft., **$0.13.** Net **$0.075**

TWO-STATION WIRELESS SYSTEM (FIG. I)

Stations can be added at any time; all stations will receive any messages transmitted by any other station. Mobile—units can be moved anywhere an electrical outlet is available. Uni-Trans gives you dictation and supervisory control. When set for Uni-Trans, unit provides continuous transmission to other unit, to dictate or to "listen in" . . . for example, in the baby's room. The "Sonic Gate", together with the Talk-A-Phone "Squelch", effectively suppresses line noises and hum while system is in actual operation as well as when in stand-by position. For 110–120 VAC/DC. UL Recognized.

Talk-A-Phone Model T-LC-33 System—Complete two-station system. Shipping Weight, 16 lbs. List Price, **$245.00** Net Each..... **$144.00**

Talk-A-Phone Model T-LC-17—Additional single station. Shipping Weight, 8 lbs. List Price, **$122.50.** Net Each..... **$72.00**

Talk-A-Phone Model H Cradle Phone—Wt., 3 lbs. List **$74.00.** Net Each..... **$43.50**

Scotch® BRAND RECORDING TAPES, CASSETTES, 8-TRACK CARTRIDGES AND ACCESSORIES

CASSETTES FOR CASSETTE RECORDERS

Professional quality recording cassettes for every recording application feature special oxide and distinctive backing for superior cassette recording that can be favorably compared to open-reel at 7½ ips. Magnetic coating is of cobalt energized oxide particle, completely different from and superior to standard low noise oxides. Special "Posi-Trak" backing offers outstanding mechanical performance, improves and assures smooth tape winding within the cassette, diminishes the possibility of tape sticking and jamming, and reduces capstan slippage and "wow". The economy "Highlander" tapes feature tensilized polyester backing. Cassettes have precision built housing designed for long term, trouble-free use.

CHROME CASSETTES

Superior quality cassettes feature "Posi-Trak" backing. Packed in individual plastic album storage box with transparent hinged top.

Scotch Number	Recording Time, Each Side	Base	List Price	Net Each
S-C-45 CR	22.5 min.	.5 mil	$3.10	$2.49
S-C-60 CR	30 min.	.5 mil	3.75	2.99
S-C-90 CR	45 min.	.3 mil	5.60	4.49
S-C-120 CR	60 min.	.25 mil	7.50	5.99

HIGH ENERGY CASSETTES

Excellent performance assured with this High Energy cassette featuring "Posi-Trak" backing. Packed in individual plastic album storage box with transparent hinged top.

S-C-45 HE	22.5 min.	.5 mil	$3.10	$2.49
S-C-60 HE	30 min.	.5 mil	3.75	2.99
S-C-90 HE	45 min.	.3 mil	5.60	4.49

LOW NOISE/HIGH DENSITY CASSETTES

High quality cassette, perfect for music and voice recording. Features "Posi-Trak" backing. Packed in individual plastic album storage box with transparent hinged top. Scotch model numbers with M suffix, i.e., S-C-45 M, S-C-60 M, S-C-90 M are "mailer" packaged in white opaque plastic, postal-approved mailing containers.

S-C-45	22.5 min.	.5 mil	$2.50	$1.99
S-C-45 M	22.5 min.	.5 mil	2.50	1.99
S-C-60	30 min.	.5 mil	3.00	2.39
S-C-60 M	30 min.	.5 mil	3.00	2.39
S-C-90	45 min.	.3 mil	4.50	3.59
S-C-90 M	45 min.	.3 mil	4.50	3.59
S-C-120	60 min.	.25 mil	6.00	4.79

HIGHLANDER® LOW NOISE CASSETTES

Economical cassette, the Highlander is an excellent choice for use in the home, at school, or outdoor on-the-spot recording. Features tensilized polyester backing. Packaged in its own one-piece transparent plastic storage case.

H-C-45	22.5 min.	.5 mil	$1.60	$1.29
H-C-60	30 min.	.5 mil	1.85	1.49
H-C-90	45 min.	.3 mil	2.85	2.29
H-C-120	60 min.	.25 mil	4.35	3.79

3-IN-A-BAG HIGHLANDER LOW NOISE CASSETTES

Same cassette as listed above, but for even greater economy, packed 3 in a plastic bag instead of individual plastic storage box.

Scotch Number	Recording Time, Each Cassette	Base	List Price	Net Each
H-C-45 3/B	45 min.	.5 mil	$4.25 per bag	$3.39 per bag
H-C-60 3/B	60 min.	.5 mil	5.00 per bag	3.99 per bag
H-C-90 3/B	90 min.	.3 mil	7.50 per bag	5.99 per bag

8-TRACK BLANK RECORDING TAPE CARTRIDGES

HIGH OUTPUT, LOW NOISE 8-TRACK CARTRIDGES

A perfect blend of superb sound and mechanical excellence. Combines rugged, precision-molded housing and years-ahead formulation of high output, low noise tape. High output characteristic provides 2 dB more signal than other quality cartridges. Low-noise property cuts background tape hiss 4 dB below standard tapes, and provides an outstanding increase in dynamic range. Can capture faithfully all the subtleties of the original performance for repeated enjoyment. Specially designed backing lubricant assures smooth running, hour after hour. Offers excellent flutter characteristics that stay low even after extended use. Clean running formulation provides the best possible sound and longest life. Perfect choice for Quad-8 systems. Playing time reduced ½ when used on Quad-8 equipment. Cartridges are packaged in a reusable cardboard protector sleeve and are supplied with a write-on label.

Scotch Number	Total Recording Time*	List Price	Net Each
S-8TR-45 HO/LN	45 min.	$3.10	$2.49
S-8TR-90 HO/LN	90 min.	3.75	2.99

*Recording both directions at 7½ ips.

LOW NOISE DYNARANGE 8-TRACK CARTRIDGES

True low-noise performance for all types of recording. Offers dependable operation and fine sound quality for hours of listening enjoyment. Special oxide coating results in 4 dB less tape noise than standard oxides. Reproduction is crisp and clear. Features dynamic range that is more than sufficient for every recording application. Low ruboff lubrication system provides ultimate reliability. Repeated performance assured without sudden increase in flutter. Packaged in reusable cardboard protector sleeve and supplied with write-on label.

Scotch Number	Total Recording Time*	List Price	Net Each
S-8TR-45	45 min.	$3.75	$2.99
S-8TR-90	90 min.	4.35	3.49

*Recording both directions at 7½ ips.

OPEN REEL RECORDING TAPES

HIGH OUTPUT/LOW NOISE TAPE

Superior open reel tape preferred by professionals for mastering use. Used in recording studios throughout the world. Can be counted on for the most demanding recording applications. Capable of capturing everything that exists in music extremes from booming bass to the most subtle murmurs. A 50% increase in output level over standard tapes provides an improvement in dynamic range of a full 3 dB. Tough, scratch-resistant backing "Posi-Trak", is uniquely compatible with transport mechanisms and recorder heads. Assures accurate tape travel and optimum head-to-tape contact. Dull black backing reminds user to record on shiny side of tape. Leaders and trailers attached. Each reel supplied in plastic storage case except Scotch No.'s specified with †, which are supplied in cardboard storage box.

Scotch Number	Total Recording Time*	Reel Size	Polyester Base	List Price	Net Each
206-¼-R60	60 min. (1200′)	7″	1.5 mil	$ 7.50	$ 5.99
207-¼-R90	90 min. (1800′)	7″	1.0 mil	9.35	7.49
206-¼-R120†	120 min. (2400′)	10½″	1.5 mil	20.00	15.99
207-¼-R180†	180 min. (3600′)	10½″	1.0 mil	23.75	18.99

*Recording both directions at 7½ ips. †Supplied in cardboard storage box.

LOW NOISE/DYNARANGE® TAPE

"Dynarange" low-noise tape is an excellent choice for professionals who demand the advantages of a low noise formulation as well as for beginners who desire realism, fidelity and sensitivity in their recordings. Special low-noise oxide coating provides improved signal-to-noise ratio of 4 to 6 dB over standard tapes. Long-lasting 1½-mil polyester base. Wound on plastic reel with leader attached. Each reel supplied in cardboard storage box.

Scotch Number	Total Recording Time*	Reel Size	Polyester Base	List Price	Net Each
211-¼-R30	30 min. (600′)	5″	1.5 mil	$ 3.75	$ 2.99
211-¼-R60	60 min. (1200′)	7″	1.5 mil	5.60	4.49
211-¼-R120	2 hrs. (2400′)	10½″	1.5 mil	17.50	13.99
212-¼-R45	45 min. (900′)	5″	1.0 mil	4.35	3.49
212-¼-R90	90 min. (1800′)	7″	1.0 mil	7.50	5.99
212-¼-R180	3 hrs. (3600′)	10½″	1.0 mil	21.25	16.99
213-¼-R120	2 hrs. (2400′)	7″	.50 mil†	11.25	8.99
213-¼-R240	4 hrs. (4800′)	10½″	.50 mil†	32.50	25.99
214-¼-R90	90 min. (1800′)	5″	.50 mil†	7.50	5.99
214-¼-R180	3 hrs. (3600′)	7″	.50 mil†	15.00	11.99

*Recording both directions at 7½ ips. †Tensilized polyester.

HIGHLANDER/LOW NOISE TAPE

Excellent quality recording tape well suited for all types of recording. Ideal for recording voice and music, and for transcribing from pre-recorded tapes and records. An economical tape that performs with exceptional dependability in a variety of recording assignments. Low-noise oxide coating and tough polyester base assure years of reliable service. Each tape wound on a 7-inch tinted plastic reel and packaged in a sturdy cardboard box.

Scotch Number	Total Recording Time*	Reel Size	Polyester Base	List Price	Net Each
228-¼-R60	60 min. (1200′)	7″	1.5 mil	$4.35	$3.49
229-¼-R90	90 min. (1800′)	7″	1.0 mil	6.25	4.99

"LIVING LETTERS" TAPES

Polyester base tapes on 3″ reels. Plastic container doubles as reusable mailer or storage unit.

211-¼-R7.5LL	7.5 min. (150′)	3″	1.5 mil	$1.85	$1.49
214-¼-R30LL	30 min. (600′)	3″	.50 mil†	4.35	3.49

*Recording both directions at 7½ ips. †Tensilized polyester.

ACCESSORIES

Scotch Number	Description	List Price	Net Each
S-C-HC	Cassette head cleaner	$1.85	$1.49
S-8TR-HC	8-Track head cleaner	3.00	2.39
41-½-12.5*	Splicing tape, 1.5 mil acetate, size, ½″ x 150″	1.10	.89
41-7/32-66	Splicing tape, 1.5 mil acetate, size, 7/32″ x 66′	1.75	1.39
41-½-66	Splicing tape, 1.5 mil acetate, size, ½″ x 66′	2.00	1.59
620-7/32-66†	Splicing tape, 1.0 mil polyester, size, 7/32″ x 66′	3.75	2.99
620-½-66†	Splicing tape, 1.0 mil polyester, size, ½″ x 66′	5.25	4.19
SK-7/32-12.5‡	Splicing kit, 1.0 mil polyester, size, 7/32″ x 12.5′	1.85	1.49
51-7/32S	Aluminized sensing tape, 7/32″ x 150″	2.00	1.59
24W-¼-100	Leader, timing tape, white, 100′	1.10	.89
24Y-¼-100	Leader and timing tape, yellow, 100′	1.10	.89
PRST-7§	Empty self-threading reel, 7″	2.50	1.99
RB-¼-5	Empty plastic reel in paper box, 5″	1.00	.79
RB-¼-7	Empty plastic reel in paper box, 7″	1.35	1.09
RB-¼-10½M	Empty metal reel in box, 10½″	8.25	6.59
B-¼-5	Empty paper box, 5″	.50	.39
B-¼-7	Empty paper box, 7″	.60	.49
B-¼-10½″	Empty paper box, 10½″	1.50	1.19

*Packaged on a core in a plastic bag, without a dispenser. Bag is die-cut for pegboarding. †No. 620 Splicing Tape may be used to splice all "Scotch" brand recording tapes. Always use No. 620 when splicing tapes with "Posi-Trak" backing. ‡Kit includes a splicing block and 12.5 ft. of polyester splicing tape on a dispenser. Kit is carded for pegboarding. §Each reel supplied with plastic collar and labels.

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Weston
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Wood Electric....267, 268

X
Xcelite....402-405

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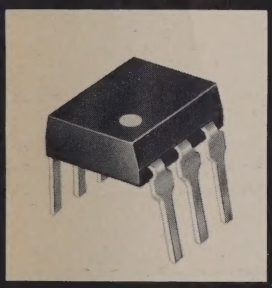
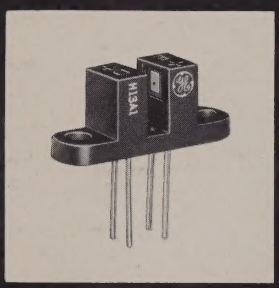
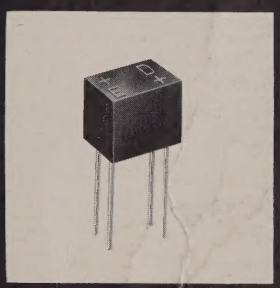
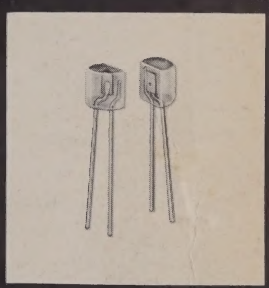
GENERAL ELECTRIC OPTOELECTRONIC COUPLER LINEUP









H11 SERIES COUPLERS

- 14 Different models—interchangeable with all popular industry types
- Transistor, Darlington and SCR outputs
- The Industry's first AC input coupler-H11AA and threshold coupler-H11A10
- GE's patented glass isolation yields the highest available CTR and isolation voltages-4N35 offers 100% CTR with 3500V isolation
- Covered under U.L. File E51868

H13 SERIES INTERRUPTER MODULES

- 4 Models offer "no contact" switching For use as:
  - shaft encoders
  - counters
  - position sensors
  - key boards
  - limit switches
  - electronic ignition systems

H15 SERIES COUPLERS

- 4000V isolation
- 4 low cost models for pulse transformer replacement, thyristor triggering, logic interfacing
- Transistor and Darlington outputs
- Solid state reliability at low cost
- Covered under U.L. File E51868

H17 SERIES MATCHED EMITTER DETECTOR PAIRS

- Industry's lowest cost matched pairs
- Transistor and Darlington outputs for general purpose detection applications and "no contact" switching
- Replacements for limit switches, small mechanical contacts and micro switches

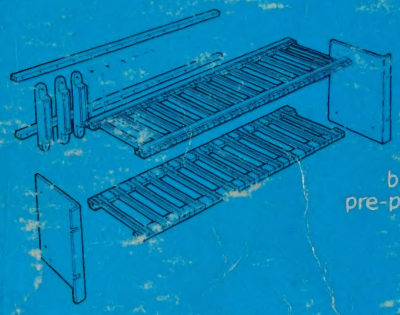
COMPETITIVELY PRICED AND AVAILABLE FROM

GENERAL ELECTRIC

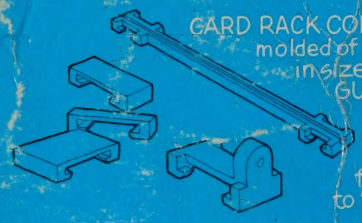
SCANBE
Packaging Products

SCANBE
CANOGA INDUSTRIES

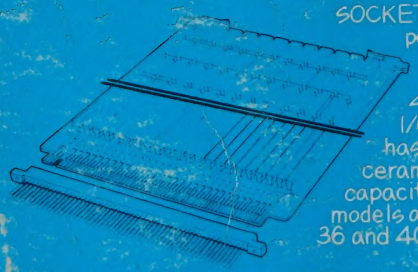
PACKAGING PRODUCTS



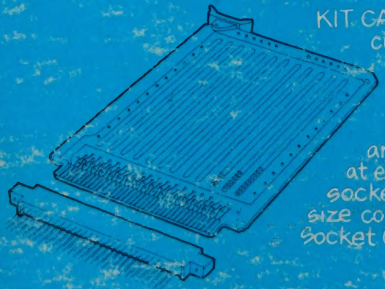
Scanbe's RAPID RACK SYSTEM is available in eight complete kits, single or double guide assemblies in five different spacings and end plates either blank, slotted or pre-punched.



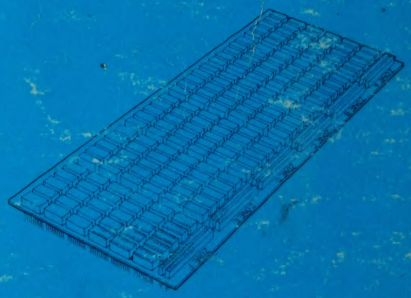
CARD RACK COMPONENTS include GUIDES molded of U.L. approved nylon available in sizes from 2.750" to 7.500", GUIDE MOUNTING BARS made of high strength aluminum, EJECTORS and SNAP-IN GUIDES in five lengths from 2.500" to 12.000".



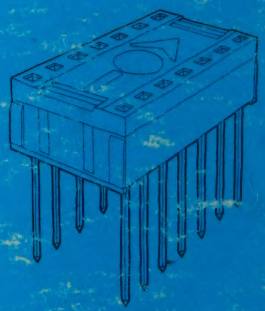
SOCKET CARDS, 40 and 60 position, both with a compatible Universal (Pin Strip) card. The 40 position has 72 pin I/O and the 60 position has a 122 pin I/O. All mount ceramic and axial lead capacitors. UNIVERSAL models accept 8, 14, 16, 18, 24, 36 and 40 lead DIPS.



KIT CARDS to make your own custom socket cards consist of a board, complete with ejector, I/O pins and Vcc and GND pins. Cards are .062" thick with pads at each pin hole for easy socket attachment and are size compatible with our Socket Cards.



SOCKET PANELS - The Universal is available with 9 to 54 pin rows, in nine-row zones. The 14 and 16 pin models utilize ME-2 sockets in arrays of 30 per zone with from one to six zones on one panel providing from 30 to 180 I.C. mounting positions. Panels accept electrolytic, axial lead and ceramic capacitors.



SOCKETS - ME-2 Sockets and Pin Strips, molded of U.L. approved nylon, offer edge-gripping contacts, solder relief, guide ramps and closed entry. Pin Strips come in 11, 12, 14, 18 and 20 pin models.

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